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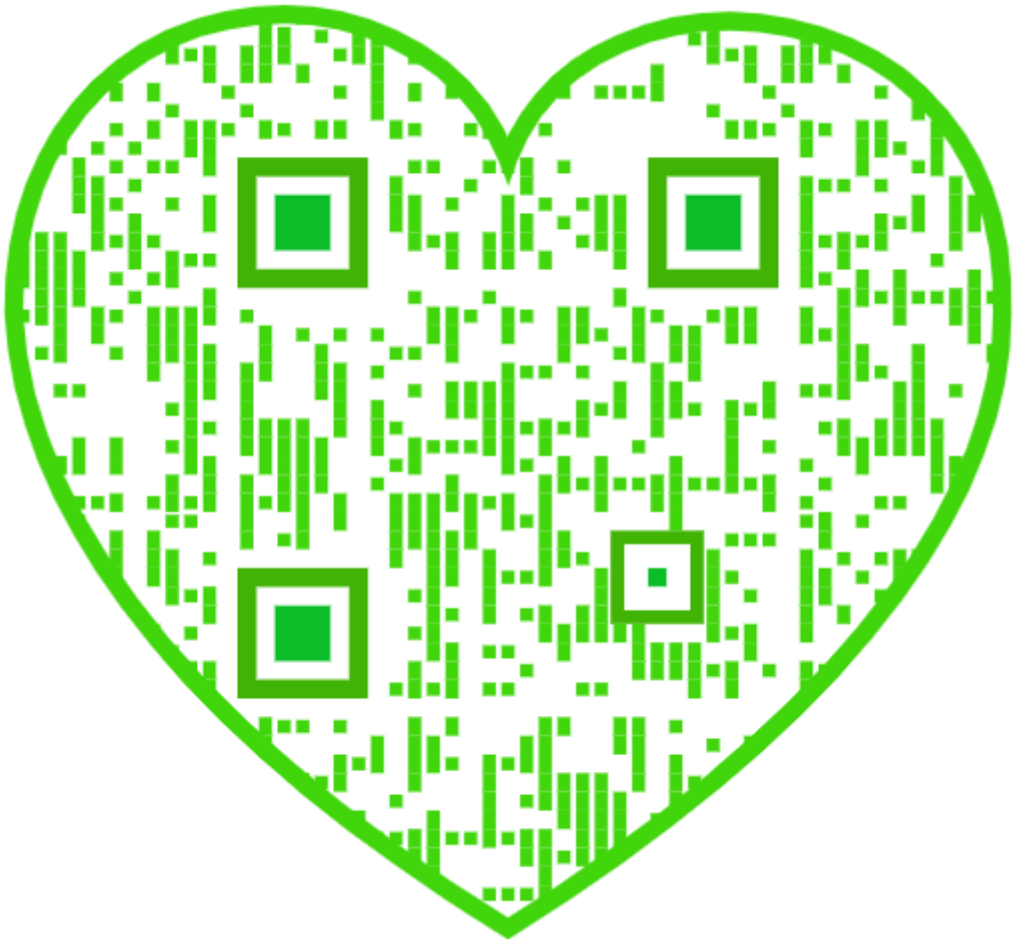

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Editorial, Notices, &c.

FOUL BROOD

AND COMPULSORY POWERS FOR DEALING WITH IT.

The special committee appointed for the purpose of carrying out the arrangements in connection with the proposed deputation of bee-keepers to the President of the Board of Agriculture, and having reference to the subject of foul brood among bees, held their first meeting on the 27th ult. at 17, King William-street, W.C., all the members of the special committee (including the chairman and vice-chairman of the B.B.K.A.) being present.

There should surely be no need for us to impress upon our readers the extreme importance, to the industry at large, of the action now being taken by the parent association in this matter; nor is there any reason to suppose that even the most apathetic member of the craft will remain a disinterested onlooker with regard to what is proposed to be done. Bee-keeping in this country, as elsewhere, is known to be heavily weighted and its progress hindered by the scourge of foul brood, which hangs over the pursuit like a pall, darkening its prospects and rendering attempts to make it a business success vague, uncertain, and not seldom entirely futile.

The purpose in view is to remove this bee-pest so far as wise and intelligent combined action will conduce to that end, and the gentlemen entrusted with the task invite the hearty co-operation of all concerned. More especially is an appeal made to the executive officers of county bee associations, who can render invaluable assistance by collating and furnishing such necessary statistics on the subject of foul brood as are needful in making out a strong case, should the President of the Board of Agriculture consent to receive a deputation of bee-keepers, as anticipated.

In order to adequately place the subject before the hon. gentleman, it was considered by the committee that information should be forthcoming on the following points:—

1. The present extent of the bee-keeping industry, with statistics as to associations.
2. The scope for further development.
3. The advantages to farmers, fruit-growers, and cottagers likely to result from enlarged apiculture.
4. The calamitously-destructive nature of (so-called) "foul brood."
5. The impossibility of dealing with it by private effort or the action of bee associations.
6. Its present widely-spread prevalence.
7. The strong desire in certain influential quarters to have the disease scheduled by the Board of Agriculture.
8. The encouragement to bee-keepers likely to ensue from the recognition of the industry by the Board.
9. The need for such recognition in view of apiculture being now taken up by agricultural colleges, the University Extension College at Reading, and technical colleges in various parts of the country; as well as the fact that considerable grants of money are being voted by County Councils for the teaching of the science and art of bee-keeping.

The question of foul brood, and the desirability of obtaining some means of effectively coping with it, has to our knowledge been before the committee of the B.B.K.A. for some years past, but a former appeal to secretaries of bee associations for information which would strengthen their hands in approaching the Government on the subject was, for various reasons, not very successful. Since then, however, the matter has become ripe for solution, and less unaccountable reticence is displayed by bee-keepers in giving information regarding the disease; so that better results are anticipated. Besides, to all who feel the smallest amount of uncertainty as to the way in which the matter will be handled

we speak of what we know in giving the assurance that it will be dealt with in an entirely sympathetic spirit. The injustice and hardship apparently feared by some of our correspondents is, therefore, more imaginary than real. Anyway, no such pecuniary loss is likely to occur with the possession of "compulsory powers" as in the case quoted on page 4, where consent was voluntarily given to destroy no less than forty hives of foul-broody bees with no compensation whatever.

On the other hand, it would be easy to enlarge upon the many advantages to bee-keepers which appear to us likely to accrue from State recognition and—to some extent—regulation of the industry. Among other benefits, swarms and stocks of bees from districts possessing a clean bill of health would be bought and sold with mutual confidence, instead of, as at present, all sorts of guarantees as to freedom from foul brood being necessary to entice unwilling purchasers. Then, as to honey production, the county of Kent is quoted as capable of easily producing a ton of honey in each of its 400 parishes, but not one-fifth of this quantity is now secured, the prevalence of foul brood being the chief cause of diminished production.

Referring to this same question of honey production and what the capabilities of the United Kingdom are in that direction, a few figures may be interesting, and so, without picturing either a very extravagant or fanciful sketch, let us suppose that in the fifty-two counties of England and Wales there is an average of 250 parishes in each, and that every one of these parishes could produce a quarter of a ton of honey in an ordinary season, this would give an aggregate of 3,250 tons; add to this a modest couple of thousand tons for Scotland and Ireland, and we have 5,250 tons of British honey per annum wherewith to face foreign "imports." We invite readers who are fond of figures, to calculate what this weight of honey would realise in pounds sterling, at whatever price per lb. they may choose to value it.

Finally, and in again appealing for prompt action on the part of secretaries and all active members of county associations, they should not overlook the obvious advantage to the craft—and to bee associations in an especial degree—if the industry is recognised by the Board of Agriculture. It will increase the interest taken in—and more than probably add to the pecuniary help given to—bee-keeping by county councils, and in numerous ways extend the rapidly-growing importance just now attached to the honey-bee, of which industrious little "rural labourer" the *Pall Mall Gazette* said the other day:—"It is strange that bees should form one of the great subjects of rural controversy in mid-winter, but in some parishes hardly anything else is talked of."

Hon. secretaries of county associations and others willing to furnish information on foul brood will be supplied with useful forms for the purpose by post on application to this office, care of Editors B.B.J., where information on any of the points enumerated may also be addressed.

BRITISH BEE-KEEPERS' ASSOCIATION.

REPORT ON EXAMINATION FOR SECOND-CLASS CERTIFICATES.

Our report of the proceedings which took place at the meeting of the B.B.K.A. committee held on the 13th ult. being necessarily somewhat brief, it has been deemed advisable—considering the importance of the subject—to print the full text of the examiner's report on the examinations held in October last, which reads as follows:—

"The examinations for second-class certificates were held at various centres on October 26 and 27, 1894. Ten candidates presented themselves for examination, five of whom passed and obtained the second-class certificates. The following are the names of successful candidates placed in the order of merit:—W. R. Lilley, P. Scott, H. J. Banks, P. Scattergood, R. Cock.

"There is a very considerable gap between the number of marks obtained by the last successful candidate and the first unsuccessful one, but the examination on the whole shows a satisfactory improvement in the knowledge of the candidates over those who came forward in 1893.

"The general knowledge as to the practical part is satisfactory, although in many instances the answers are very meagre, and in some portions of questions are not answered at all. The candidates do not sufficiently study the questions put to them, and sometimes give a brief reply to the last part, ignoring the main points of the question altogether.

"The section relating to 'foul brood' was very satisfactorily treated by nearly all the candidates, and shows a marked improvement on last year.

"There were only two questions referring to the 'anatomy of the honey-bee;' one in connection with 'wax and its production,' the other with 'regard to the' 'action of the tongue in collecting honey.' With the exception of the answers from one of the candidates, those of the remainder showed a hopeless ignorance of the subject, although the syllabus distinctly states that a knowledge of the anatomy and physiology of the bee is required of candidates for second-class certificates.

"Candidates for second-class certificates should be impressed with the obvious necessity of a better acquaintance with this branch of the subject, seeing that they may at any time be called upon to give instructions in bee-keeping, and should be able to give proper answers to any questions which may be put to them by pupils."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2156.] We are on the eve of a new year, and before this appears in print 1895 will be ushered in; let us welcome the glad new year; may it prove a good one for the craft, united together by mutual interest in the industry yclept bee-keeping, and may we successfully grapple with the *bete noir* of bee-keeping during the coming year.

For myself, I have studied the subject pretty fully during the last year or two, and I am bound to confess that the more I go into it, the less fear I have of the pest.

Thanks, Mr. Wells, for your report; encouraging for a poor season, certainly, but that lump of wax is a poser; either your bees lay on the capping pretty thickly, or you pare off a good slice on each side of combs when extracting, or you have some method of renewing your brood-combs every season, and so getting new ones built out, thus increasing the size of your cake of wax. I remember in previous reports you have always had a much larger proportion of wax than I have ever had. Please don't think for a moment that we doubt the verity of your reports, but are bound to acknowledge that your system is *par excellence* for the production of wax, and from the constant inquiry for wax there is a ready market for the commodity. If you will kindly give us full instructions how to produce it you will be adding another source of income to poor bee-keepers, and helping us to eke out poor seasons. As regards comparison between Mr. Wells' output and result for the year with other apiarists in his immediate neighbourhood, of course they are not in it any more than a similar comparison between my own output, or net result, for the year would be compared with the apiaries around me, therefore I contend that such comparison proves nothing, except that "modern bee-keeping depends on management." I started some half score bee-keepers with bar-frame hives, say, ten years ago, and as long as I took the trouble to attend to them the bees did well, and produced good "takes" of honey, but as soon as I—from stress of work in my own increasing apiary—was obliged to give up the management the apiaries went back, and the owners soon tired of bee-keeping, and sold out. There is only three of them that still keep bees. One has not taken off his first crate of (empty) sections. One of the other two has not had a pound of honey this year; and the remaining one had a few sections (13) off one hive and one swarm, and the other hive swarmed only. The crate of the first one I put on myself, and soon after it was on the colony swarmed. This is situated near my out-apiary, and my best colony (non-swarming) filled four crates within 300 yards, so that I contend that it is the management of bees that brings out the results, and not the one-queen or two-queen colony.

I, as a purveyor of swarms and queens, cannot expect to compete with other bee-keepers who produce honey only; I therefore make it a point never to strike an average; I only know the net result at the end of the season, and I can add that the balance has been on the right side every time yet—even in 1888, when I fed so heavily, I had a small balance to the good by giving in my time, or enough to pay for time, at a small wage.

December 31, 1894.—We have had a change in the weather since above was written. Frost and a sprinkling of snow give a more seasonable aspect to the landscape on the distant hills in Hampshire.—W. WOODLEY, *Beedon, Newbury.*

FOUL BROOD

AND COMPULSORY POWERS.

[2157.] After the remarks in last three lines of the editorial in your issue of December 20 (p. 502), nothing short of a very strong feeling to the contrary prompts to express, by your permission, a somewhat different opinion. This is very forcibly brought home to my mind by the allusion—in the article quoted from the *Standard*—to the conditions attending swine fever, wherein the writer says "the

cottager is already accustomed to the law.' He is, but because he is, it by no means follows that the law is a just or a beneficent one. Nor is the cottager alone in this idea. It is a law which is equally hard on the farmer, the country gentleman, and all who keep pigs. A law which prohibits the sale of pigs, except they are slaughtered within a few hours, over whole counties at a time, simply because in one particular area of that county a certain disease has broken out, can hardly be termed a reasonable law; and in its ultimate workings it probably produces evils great as those it proposes to remedy.

If this ever-increasing interference of the State into private affairs—restricting as it does the freedom of the individual at every step—is applied to apiculture, it will be well for "the powers that be" to consider carefully, before invoking State aid, what the ultimate result will be of calling into play new and coercive regulations affecting this particular industry? It requires no very great stretch of imagination to picture further and further restrictions following a comparatively simple law on the subject of foul brood.

What has the State done for the industry in the past? Is the State responsible for its present improved conditions? for the bar-frame hive, the extractor, the section? No. Individual enterprise, experiment, and labour have given us these, and the enterprise of the Editors of this paper has spread the information from one end of the land to the other. Yet, forsooth, when a man spends hours of patient labour, to say nothing of hard-earned cash, in perfecting his experiments to combat a disease to which bees are liable, we are told by "A Goose" (and a big goose, too, I think) (on p. 504) that "it is not a favourable augury when he vends his discovery for private gain."

This is all part and parcel of our present day so-called Socialism; but the point I wish to urge upon our Editors and all B. J. readers is this—to earnestly consider before you lend a hand to set in motion a machine, whose momentum and powers when once in motion are most difficult to arrest, and whose movements may produce in the future (whatever immediate benefits they confer in special districts) far greater hardships and evils to those interested in apiculture than its most sanguine supporters contemplate at the present time.—E. H. Hopkins, *Greenhill, near Bromsgrove, December* 12, 1894.

[The argument used by our correspondent is remarkable. It amounts to this: That because, not the Government, but private enterprise and the influence of the British Bee Journal have developed apiculture to a wonderful extent, therefore the Government has no business to intervene, even when urged by influential bee-keepers who have themselves suffered, and have known the ravages and losses connected with foul brood. We are, however, desirous that our columns may be used for free and full discussion of the subject, but—in estimating the value of arguments *pro* and *con*.—it will be well to distinguish between writers who are, or have been, themselves sufferers from the evils it is sought to remedy, and those who argue from the vantage ground of keeping their bees in non-infected districts, seeing that the opinions of the latter would probably undergo a complete change if a foul-broody apiary were discovered in near proximity to their own.—Eds.]

[2158.] It was with pleasure I read your "Editorial" notes, especially those relating to the foul brood pest and compulsory powers. With Mr. Woodley I believe that, to be satisfactory, full compensation should be given when foul brood inspectors order total destruction, and this especially so when it is for the public good. Mr. Woodley makes mention of swine fever. To my mind, the compensation paid to owners is quite inadequate, and I know has been the cause of poor people concealing the disease, with the hope of cure, rather than make known to the authorities the disease with which, perhaps, only one solitary pig was infected. I fear the same will result with foul brood, unless satisfactory compensation is offered.

A case of foul brood occurred a few years ago in an apiary near me, and, after several attempts to cure, on the advice of an expert the whole lot (forty hives) were committed to the flames, the bee-keeper consenting to the above course when the seriousness of infecting the whole district was shown to him; the loss, taking the figures of the bee-keeper himself, being equal to £40 sterling. No one will deny that compensation would have been a great help in this case, as the man has not been able to commence bee-keeping again.

Meeting with an expert in August, I had a conversation with him with reference to foul brood, and he said he did not fear it in the least, in fact, he had introduced foul-broody combs into healthy hives for the purpose of experimenting; and that with a mixture, of American invention, he not only cured the bees affected, but prevented the others taking it. Perhaps you have heard of this American mixture, and can make known the remedy, and its proper uses?

No doubt if foul brood is brought under the Contagious Diseases (Animals) Act, the "inspectors" will have an arduous task before them, and meet with some strong opposition from those obstinate and pigheaded ones referred to by Mr. Percy Sharp [2157, p. 497.] Misgivings have certainly arisen with regard to the powers inspectors will have given them. One bee-keeper, a fortnight ago, told me he would take care no man came and pulled his hives about, or, if he did, he, the bee-keeper, would not be answerable for the consequences. I referred him to your notes, and, after perusing, he confessed the idea was all right, but

before the inspection took place he should require some little notice.

That something should be done to arrest the disease is apparent to almost every one, especially when its terribly infectious character is known.

I have only heard of one case of foul brood in this district during the past season, and shall be glad if I hear nothing further.

Since writing the above my attention has been called to an article in the *Standard* of December 15, under the title of "A Bee-keeper's Grievance," a perusal of which should infuse greater activity into all who have the interests of bee-keeping at heart; and also encourage those who have the appointment of the deputation, who will bring the question of foul brood before the Board of Agriculture, to persist in their good work until what we say should be law has become a recognised fact. —WILFRED HARDIE, *Bromsgrove, December* 19.

[It is difficult to understand what is meant by the "full compensation" advocated by our correspondent. But whatever is done in that direction, by way of affording compensation for the destruction of diseased bees, it would be absurd to suppose that foul broody stocks can be regarded as of much value. Consequently, we cannot see where the term "full compensation" applies. Surely not because the act of destruction tends to "the public good," as stated. Referring to the "Expert," who "does not fear foul-brood in the least" because of his "American mixture" and the wonderful powers attributed to it; but for remembering those "Wooden nutmegs" manufactured somewhere down east in U.S.A., we should have been glad to be furnished with the name of the expert (?) mentioned. As it is, and in view of the fact that no such "mixture" is known anything of by bee-keepers in America, we must be pardoned for looking upon the statement regarding it as so much rubbish. Our readers may rely on it that so soon as anything new and really valuable for curing foul brood appears in any bee journal in the world, we might say, they will be promptly informed of it.—EDS.]

[2159.] As about twenty of my stocks were infected with foul brood last season, the discussion now going on especially interests me, as it (f. b.) may break out again next spring.

By Mr. Wells' letter it is evident that Kent is infected, and I was given to understand when at Cambridge that that county was also; whilst there are over a hundred hives here of which I have knowledge. The strength of our arch-foe is equal to its prevalence.

The desirability or otherwise of compulsion all depends on what is going to be done, and what compensation is to be given.

In my opinion, when a person has a stock infected—if we come to compulsion—he should be made to inform the f. b. inspector of his district at once, and the latter should immediately destroy both bees and combs, &c., and have the hive disinfected in his presence. The bee-keeper should then have two-thirds value of the bees, combs, and frames. This would be better than giving full value, for if the latter be given persons may not be so careful as they ought; besides, they ought to bear a little of their own misfortune.

Unless compensation is given to this extent you cannot expect owners of larger apiaries to destroy them. If by immediately destroying an infected stock it puts an end to the disease, the case might be settled differently, but, as it is, no sooner is the conclusion arrived at that you have by stringent means eradicated the disease, than it breaks out again. You may destroy bees and combs until you have none left, and then, if a fresh start be made, what guarantee have you that the disease will not return? It must also be borne in mind that a diseased stock is not necessarily one that will yield no profit the current year.

Another thing to be considered is the method of investigation employed by the inspector, if such be appointed. There are bee-keepers who will not allow an expert (who is always going from one apiary to another) to inspect their hives. I have good reason to believe that I carried the spores by which my apiary was infected a mile in my clothes, and if this is possible the inspectors will be one means by which the disease may be spread.

It is surprising that you have so comparatively few communications on this subject. There are plenty whose opinion would be welcomed if they would give it.

As regards remedies, I find it is possible to raise healthy brood in a badly-infected hive. The brood raised from a newly-mated queen seem to resist the disease better than that from others. Hybrids also resist the disease much better than natives. I do not think it wise to let some of the statements made in the *Standard* pass without comment, viz, the shorthorn; the queen; cottager's hive as important as his pig; the poor bee-keeper who makes from £5 to £10 off two or three hives; £10 from one hive. A lie has never yet helped on a man nor a cause, moreover, a good cause has no need of such.

If hard-working *men* get an output of honey as stated (I will take the maximum of 60 lb.), if they have only one hive each will be 30 lb. per hive. It is imputed, if not stated directly, that a hive may bring in £10. Of course, in both cases an average is quoted. Accordingly, by the writer's argument, honey is like the much-advertised pills "worth a guinea a pot." —BEESWAX, *Beds, December* 24.

MY BEE-KEEPING IN 1894.

SOME NEED FOR "COMPULSORY POWERS."

[2160.] No echo having appeared from Somerset in your pages, I thought, ere 1894 passed away, I would send a few

lines. The season at its opening was very promising, but unfortunately it did not last long, and we had a long spell of wet weather, in consequence many stocks were reduced to starvation point; fortunately I had a few shallow frames of honey left from 1893, these I uncapped and gave one to each stock, which carried them through. I put them on top, and the bees had just cleared out the honey and made all acceptable, when the fine weather began, and I was soon repaid for this frame of honey. Swarms at this time began to be general, one of my "Wells" hives swarmed twice; the first time two swarms came off, one much larger than the other, so after taking out six frames with queen cells on them, for nuclei, the bees were returned. One side swarmed again, about ten days after, and were again put back. From this hive I had about seventy pounds extracted honey and ten sections. I also made six nuclei with the six frames taken away, from which the queens all hatched and were safely mated. The fine weather continued about three weeks, and this was the only honey flow we had, very little being gathered, and scarcely any stored in surplus chambers after that time. My returns were less than in 1893, when I had fifteen hundredweight, but only about twelve hundredweight this time, with an increase of twelve stocks. Taking the season through, however, I must not complain, for in our county of Somerset as a whole, the honey return is much below last year. There was a splendid show of bloom on the heather, and for a few days the coveted nectar was coming in, but the cold nights and cloudy days caused very little to be carried into surplus chambers, none of the stocks at the heather, however, wanted feeding. I am afraid that not a few stocks will have already succumbed to starvation, for many swarms in skeps which I examined in my travels, could not possibly live through the winter; I begged the owners to supply them with food, but am sure that in some cases it has not been done. It is a pity some punishment cannot be meted out to those who keep bees and let them starve for want of food, just as is done to those who keep other living animals only to starve them. Most animals find means of letting their owner know when hunger pinches, but the poor bees cluster together for warmth, and those most exposed drop off dead one by one to the bottom of the hive in quite pitiful silence. I am very pleased to see there is to be a deputation to Mr. Gardener in reference to foul brood, as it appears to be on the increase in Somerset and Gloucester. It broke out in one of my hives for the first time this season, and, although a strong stock, I destroyed it to prevent the risk of contagion in my own and my neighbours' hives. One bee-keeper I know has lost £50 from the pest, and, if something is not done, I fear it will be good-bye to all surplus honey. There is a tendency among bee-keepers to hide the fact of their bees being diseased, which ought not to be. We all ought, in common honesty to each other, do all we can to exterminate it. That there is money in bee-keeping, if worked on the right principle, I am certain, once we can overcome this pest of foul brood; but with this, as with all other enterprises, the one who plods on steadily, and uses energy and common-sense, will always be the most successful. Being desirous of having the benefit of what is new and *good*, I have tried wide-frames and super-clearers, and think both have come to stay. Wide-frames, both to the bee and its keeper, must be a saving of labour, as the bees have only to seal two combs now where they had to seal three before, the bee-keeper reaping the same advantage. Anything that reduces labour must be a step in the right direction. I gather from the JOURNAL that some bee-keepers have a difficulty in disposing of their honey. Perhaps they do not "push it" in a business sense, or do not put it up in good marketable form. Anyway, I find no difficulty in retailing over half a ton every season at one shilling per 1-lb. bottle. I always keep extracted honey in stock, put up in screw-capped bottles. Though costing a little more, I find the public prefer them.

I find a capital advertisement in giving all my customers in my ordinary business outside bee-keeping a bottle of honey at this festive season, and often get application for more during the year. Yesterday I had an order from a gentleman for 50 1-lb. jars for distribution among his employés as a little Christmas gift. Each jar was tied up with a Christmas card or small book, and had the name of recipient placed on it ready for handing round. In these times of strikes and strife, other employers might follow suit with all-round advantage.

How time flies! Memory carries me back to the days when, at the age of ten, I found my first swarm of bees in my father's employer's orchard in Devonshire. I have watched for hours at a time the busy creatures passing to and from the hive loaded with pollen, which then I thought to be honey, and even now I remember with a shudder the "taking" of the poor bees by my father by the old method of suffocation—the hole dug, a match applied, the hive lifted from its stand and set over the burning sulphur, then the horrid whiz! and all was over. To me as a boy this was cruel in the extreme, and although passionately fond of bee-keeping, this way of getting the honey was the greatest drawback of all. Happily, wiser and better methods have dawned on the bee-keeping world, for which let us heartily thank former pioneers of the craft, some of whom have passed away since the dawn of 1894. But "their works do follow them." May this be said of some of us remaining. I end this long epistle by wishing all the craft—not forgetting our Editors—a Happy New Year, with a prosperous honey season for 1895.—J. MARTIN, *Bedminster.*

BUYING BEES FROM INFECTED DISTRICTS.

[2161.] In reference to foul brood — a person hailing from Lincolnshire is advertising for "bees in straw skeps cheap," in our local paper. There is foul brood in the district, and yet if he can get them cheap—well, he will, and repent ever after. That is the way to ruin his own and all apiaries near at hand. I have striven to warn all concerned, but as other correspondents witness, so I now testify, people *are not* willing to have their hives interfered with. Burning is my remedy. It is time the County Councils had power to interfere. I hope they soon will.

There is just one bit of advice I would give to amateur bee-keepers, and that is, cease buying driven bees, unless you have a written guarantee of good health. The most expert cannot always safely say a hive is clean. It may have disease germs in and you cannot detect it. Therefore be on the safe side.

Until there was so much queen-buying, and such a demand for driven bees, one very rarely heard of a foul-broody hive. Now it 's all round, encroaching upon our own ground, and we cannot keep it out.—GEO. STOCKS.

BUYING BEES.

[2162.] I am a little surprised at Mr. Woodley's slightly discordant note on the foul-brood question in your issue of December 13 (p. 492), though I can quite understand how those who have never had their apiaries devastated by the pest are inclined to minimise the mischief, or think their less fortunate fellow bee-keepers are displaying a zeal that is not according to knowledge (I say it *is* according to knowledge, and therefore wise). Mr. Woodley would have appreciated the question better had he been at a meeting the other day at which I was present, when it was decided to start a model apiary in a certain part of the country. One of the company present said, "I strongly advise getting your bees from ———." Why did he "strongly advise" this? Because ——— was clear of the pest. Perhaps Mr. Woodley does not know that several friends very properly refuse to buy stocks from here. Now I tell him this, perhaps he can guess the reason—WHY.

FOUL-BROOD REMEDIES.

[2163.] Referring to Mr. Blow's advertised remedy for foul brood, I wonder if anybody has made any attempt to ascertain what is the nature of it? When we had some discussion at the B.B.K.A. *conversazione* some time ago about *bromine* as a remedy, you may remember that my special point was that, if we want a real cure for the disease, we must not content ourselves with remedies which profess to do no more than arrest the development of the bacillus. I admitted the difficulty of applying a remedy sufficiently strong, but maintained that if a real cure was attempted we must attack the spores. Mr. Blow thereupon said (see B.B.J., June 1, 1893, "The remedies at present in use *were cures*." He went on to say that if those strong remedies were made use of which aimed at destruction of the spores, 99 per cent. of the bees would be killed, "but if the simple methods were resorted to in the *bacillus stage*, that was ALL THAT WAS NECESSARY!"

After this I was naturally rather amused to find him advertising in the B.B.J. a new cure warranted to "destroy the spores, and, at the same time, to be harmless to the bees."

There is another point about the advertisement which also amused me. I had, as you know, published the results of my experiments, which, at any rate, proved two things, viz., that bromine *would destroy* the spores, and could be applied without injury to the bees (see letter from me, B.B.J., June 15, 1893). Nevertheless, Mr. B. advertises "the *first* remedy that would destroy the spores," &c. As my *bromine* was first in the field, this is scarcely correct? At any rate I made no secret of the agent I employed.

You may, perhaps, think me behind the times to talk of *curing* now, when the air is so full of "compulsory legislation." I can assure you that I consider the latter most necessary and urgent. At the same time I feel that, whether we get this or not, there is as much necessity as ever for a really effectual cure for those numerous cases where the disease is detected in the initial stage,—I mean where the stock is but slightly affected, and no spores are present.—GERARD W. BANCKS, *December* 17.

COMPULSORY POWERS.

A SUGGESTION.

[2164.] Might I offer the following suggestion for what it is worth?—

That the secretaries or experts of the various county associations, or old resident bee-keepers where there are no county associations, should canvass their districts and obtain signatures of as many of the bee-keeping fraternity as are in favour of the measure becoming law, these signatures to go towards a monster petition, which would probably influence a fair hearing for the deputation.

When about the signatures, there might also be listed the names, addresses, and number of existing stocks of the various bee-keepers; and I venture to think that, printed and published in directory-form, this would be a valuable connecting-link, a helpful aid to many beginners, who often cannot get practical assistance nor immediate advice when in a difficulty; and the sale would most probably be remunerative to the B.B.K.A. It could not comprise a bulky volume, and, with advertisements procurable from bee-appliance

dealers and others, the cost of production would be considerably lightened.

By your inviting reports from bee-keepers generally, the work of canvassing would be reduced to a minimum, and many could sign the petition at your office. — EDWIN H. WILSON.

[Referring to the above, we have already seen a form of agreement entered into by nearly every bee-keeper in a certain district, wherein the signatories consent to the inspection of their hives by a competent recognised expert, and agree to the destruction of any that may be affected with foul brood. We hope to publish the full text of the document shortly.—EDS.]

MY BEE RETURNS FOR '94.

[2165.] You may remember my letter (1667, p. 498) in your issue of December 14, 1893, headed "Does Bee-keeping Pay?" and as this question can only be fairly decided by reporting each year, I send the following account for '94 :—I began the season with seven stocks, all of them in better condition than I have ever had them before ; but the weather was so bad that drone-killing and casting out of brood was carried on for some time, as I was unable to feed through surplus chambers being on. I did give a little dry sugar below, but don't think there was 1 lb. of honey in the combs of the whole seven stocks for two or three weeks. As the season advanced we had intervals in which the bees made a little more, but it was altogether a bad time here for bees. Several stocks I drove for skeppists had scarcely honey to the value of the old combs for wax. My bees gave a little over 1½ cwt., which, with an increase of two stocks and one nucleus (which latter I have indoors), I am about £8 in pocket for the spare time bestowed on them, as I have sold bees and other things to nearly pay expenses.—M. WOOD, *Swindon, December* 19.

MR. WELLS' REPORT.

[2166.] In reply to your footnote to my letter (2139, p. 504) I have to apologise for not reading the whole of Mr. Wells' communication, which I ought to have done, to the very end. When arriving at that part which gives an account of what other hives had done in his neighbourhood, I thought "this won't do at all ;" he is comparing hives and leaving out of account the owners — as if the bee-keeper had no part or lot in general results. Had I seen the name of Mr. John M. Hooker (for instance) mentioned, who is I believe, a neighbour in a bee-keeping sense, I would have given attention to the reasoning, as it was, I regret to say I stopped at the figures.

As regards the so-called "slip of the pen," we will not argue that, Messrs. Editors, for whether 6s. 3d. is too much in some cases to allow for feeding, I am quite sure if the sixteen hives were denuded of honey in August the sum of 3s. is too little to supply sealed food until the following May ; but now this part of the subject has become a dead donkey we will cease thrashing it.

I have referred to the copy of "Bee-keepers' Guide Book," by Thos. W. Cowan, which I have in my possession—it is dated Nov., 1881—and I can find no reference whatever to the subject of creolyne, *alias* soluble phenyle, on pages 151 and 165, as described by you, nor have I ever seen Izal referred to as a better remedy for foul brood than phenol—which, by the way, I always understood was carbolic acid—and, to crown my ignorance, I do not know even what "Izal" is. I only know by repute that it is non-poisonous, and a more powerful destroyer of microbes than carbolic ; and any kind of practical experience tending to establish this fact is, to my mind, of value to bee-keepers, hence my excuse for writing about it.—THOS. F. WARD, *Church House, Highgate, December* 21.

[In referring to "Guide-Book," pp. 150 and 165, we had in mind the last edition, whereas it appears from the above that our correspondent's copy is the first edition, published thirteen years ago. As time goes on the book is revised and brought up to date, and it is now several years since phenyle was first mentioned, and it has appeared in all the later editions. We may here add that "Creolin," "Liquor Antisepticus," "Izal," "Lysol," "Solveol," &c., are analogous, and only other names for the same nostrums, just as phenol, phenic acid, hydrate of phenyl, &c., are other names for carbolic acid.—EDS.]

COUNTY ASSOCIATION LABELS

AND SELLING HONEY.

[2167.] I was very sorry to read, 2123, page 482, that "A Working Bee" had been "done" by a bottle having upon it an association label. On the other hand, it is a pleasing fact to record that in this neighbourhood such a label proved to be a strong recommendation. A friend of mine—a member of the Worcestershire B.K.A.—shows in his window a few bottles of honey bearing the association label. Recently a lady called and ordered two one-pound bottles, remarking, "The other day my brother, a few miles from here, bought a bottle of honey with a similar label upon it, and he remarked that it was the finest honey he had ever tasted, and recommended me when buying honey to be sure I got only association honey." This lady was doubtless satisfied with her purchase, for she bought several more pounds, and has since recommended the "association honey," as she calls it, to several of her friends. The above shows how very careful we should be to put

upon the market only first-rate honey, for had the lady's brother been "taken in," our association label would have been in bad repute. A pleased and satisfied purchaser is the best advertisement.—PERCY LEIGH, *Bee Mount, Worcestershire, December* 17.

BEES IN A STORM.

LENGTH OF LIFE IN BEES.

[2168.] A severe storm of wind prevailed here on December 21, which continued during the whole night, doing great damage in all directions. I am afraid it has destroyed a lot of bees. Five of my hives were blown over, and some of the combs and bees scattered all over the ground. We set the hives up again as soon as possible, but some of the combs were broken down and in a great mess, some of the frames standing up entirely out of their places. I must leave any attempt to straighten up properly until we get a warm day. At one hive the bees keep up a great noise about the entrance, and I guess it has lost its queen.

Is it possible that bees will live over a year? I have some Italians which seem to have done so, judging by the following facts:—I had a stock in 1893 for which I bought an Italian queen in the month of July. She was introduced all right, but on examining the hive a few days afterwards I found queen-cells built, making it plain the queen was gone. About a week later one of my other stocks swarmed, and on examining the combs of the swarmed hive we were astonished to find them one mass of brood. Not long afterwards Italian bees began to appear about the entrance. In order to solve the mystery of Italian bees showing themselves, the hive was again examined to see if it could be possible that the Italian queen was still alive and had got into that stock by some means. However, we found no eggs, though we did find a young black queen which had evidently hatched out after the swarm left. This being so, I can only suppose that the Italian queen must, by some means, have entered that stock when the other old one was up in the supers above brood nest, and being kindly received by the bees, both queens had been laying in the same hive for several days previous to the swarm issuing, when both queens went out along with the swarm.

Anyway, when the hive into which we put the swarm was examined a few weeks later, a black queen was found, and this makes me pretty certain that the Italian queen was killed at that time. Therefore, if my theory be correct, the bees hatched from eggs laid by that same Italian queen in July, 1893, were, to my knowledge, still alive in the same hive in July, 1894. In fact, a few were still there when the bees were packed a few months ago for winter.—S. CRAWFORD, *Lisnacloon, co. Tyrone, December* 24, 1894.

[It is so entirely contrary to all experience for bees hatched from eggs laid in July, '93, to be alive at nearly the close of '94, that we can only suppose our correspondent is misled by the Italian queen having left drone brood behind her, and that her drone offspring, by mating with some of the black queens in his apiary, have so perpetuated the yellow-banded bees.—EDS.]

FINDING THE QUEEN.

SOME HINTS TO BEGINNERS.

(*Concluded from p.* 512.)

It need hardly be mentioned that the first step for the beginner is to make himself well acquainted with the appearance of a queen. Her representation in a good guide-book will be a help. Best of tutors is an observatory hive. If no friend possesses one, try and attend one or two bee-shows. Search the frames till she be found. Leave her, walk round the tent, and at it again. There is no better practice.

Take up all bee jobs that may come in your way, and while doing them have an eye for the queen. In big operations, such as cleaning out a neglected hive, it is well to secure her under a pipe cover at the outset if possible. You may then go to work without fear, and the examination of a thoroughly neglected hive, with combs at all angles, bridges of propolis, the dirt of generations of earwigs and wax moths, whose grubs are very likely making rapid tracks along the floor-board, will be a splendid object-lesson on the demerits of a let-alone policy in bee-keeping.

Again, be early if you can when a swarm comes off, and always look out for the queen. It is really very rarely that she cannot be seen amongst her clustering children, though it is not well for the novice to grab at her royal person when he gets but a glimpse of her diving inwards into the swarm. Yet to be able to catch her on the cluster will often save a deal of trouble; as in the case of the swarm being round a post, and, therefore, not easily to be dislodged. If, before placing the skep on the top of the post, the queen be caged on to the bung which should fit the feed-hole, the swarm may be left to itself with confidence. The bees will soon make their way to her. Or again, if the queen is believed to be an old one, and her appearance on capture be confirmatory, it may be best to destroy her at once, when the swarm will soon go home again.

Let, then, the young bee-keeper go forward with confidence and energy, searching for the queen, till he can find her with ease. He is sure to succeed if he has the enthusiasm of a real bee-keeper. Only *beware of chilled brood.* The spores of foul brood are probably all about us. Introduced into our hives too in various ways, perhaps in a sheet of foundation, or in the honey which was mingled with the cake of candy; brought in by errant drones, or by

workers fresh from the rifling of an infected hive ; wafted in, maybe, by the fanners at the doorway—for the air, doubtless, contains the dried spores of our dread enemy, the bacillus alvei, as it does the minute germs of diseases which assail ourselves. They merely await a suitable bed for germination, and such pre-eminently are the cells of decomposing chilled brood. And spores are never in a hurry ; they can afford to wait a year or two. How comes the mildew on our favourite shooting boots ? Whence the microscopic fungus on the family paste-pot in the neglected cupboard ? By spontaneous generation ? Not so. The little æronauts have bided their time, and sailed in through the key-hole, and in like manner, alas ! may the spores of the bee-keepers' foe enter unchallenged through the hive doorway.

To sum up, then, O would-be brother of the craft, be bold and wary. Forget not the timely naphthaline. Con well the "Guide Book." Study the columns of the B. B. J., and forbear to vex the souls of our kindly editors with needless questions. To whom, and to all honest bee-keepers, above all to the beginners whom we have tried to encourage, the best wishes of the season from the—SOUTH DEVON ENTHUSIAST, *December* 18.

BEE-KEEPING IN ALSACE.

This year (1894) became for bees worse and worse, and in the autumn the hives in the plains were in many cases in a starving condition. In all my lectures and in the papers I strongly urged bee-keepers to resort to copious feeding, but, notwithstanding all the advice and the efforts made, there always remain negligent bee-keepers who do not take the trouble to follow such advice when it is a matter of spending a trifle in food. The result was that a large number of hives perished, even in the autumn before winter commenced.

I put thirty hives into winter quarters, which are all in good condition. The months of November and December were very mild with us, and the bees were able to take frequent flights ; even to-day the bees from one of my hives have been trying to fly out, notwithstanding that the flight boards are raised so as to prevent the rays of the sun from striking directly on the entrance. Yesterday we had our first fall of snow, which the sun is melting to-day.

Next year we are going to have a large exposition of agriculture, forestry, horticulture, and bee-keeping in Strassburg, which will extend from May to October. Great preparations are already made, and large halls are being constructed behind the orangery.

This would be a good opportunity for you Mr. Editor to come to Alsace. Our general Assembly will take place in August, and I can promise you a hearty welcome.—J. DENNLER, *Enzheim, December* 29, 1894.

Queries and Replies.

[1224.] *Soluble Phenyle v. Phenol.*—I do not quite understand the directions given on p. 165 of the *Guide Book* for making the phenyle solution :—

No. 9. *Soluble phenyle* ... ½ teaspoonful.
Water ... ... 1 quart.

No. 10. *Soluble phenyle* ... 2 teaspoonsful.
Water ... ... 1 quart.

Is this "*soluble phenyle*" No. 7 or No. 8, or is it the crystals ? I should feel very much obliged if you could answer me this through your useful little paper. With good wishes for a prosperous new year.—C. F. APPLEBEE, *Bexley Heath.*

REPLY.—The instructions in "Guide Book" are quite correct. Nos. 9, 10, and 11 refer to *soluble phenyle*, and have nothing to do with Nos. 7 and 8, which refer to *phenol*, or carbolic acid, an entirely different substance, as you will notice on reference to p. 150. *Soluble phenyle* is a liquid forming an emulsion with water, if care is taken that the water is poured on to the phenyle as described in the note following the recipes.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. KING (Colchester).—Bees were received, smashed out of shape and mixed up in post. They seem to be the ordinary brown bee. On the abdomen of one there is a trace of yellow band, indicating a slight mixture of Ligurian, or other yellow-banded race ; but whether the bee belongs to No. 1 or No. 2 we cannot say, as the box was broken, and bees all together.

E. H. HOPKINS (Bromsgrove) sends a cutting from a recent issue of the *Globe*, which reads as follows :—"An ardent lover of natural history himself, the Duke of Argyll is encouraging its study among his people at Inverary, where the well-known agriculturist, Miss Baden-Powell, gave an admirable address on "Instinct in Honey Bees." Whether bees can speak or communicate their ideas has been much argued by Sir John Lubbock and others, who, however, have scarcely had the advantages Miss Baden-Powell has in her own beautiful invention for keeping bees under observation."

Referring to the "beautiful invention" named above, our correspondent inquires—"Are you acquainted with this ?" Not knowing what the "invention" is we cannot say, but do not think we shall be far wrong in judging it to be an ordinary observatory hive.

Editorial, Notices, &c.

FOUL-BROOD LEGISLATION.

FULL TEXT OF THE CANADIAN FOUL-BROOD ACT.

In view of the large amount of interest now being taken in the question of endeavouring to obtain legal powers for the suppression of foul brood, it will be useful to make our readers acquainted with what is, we suppose, the only Act of Parliament which has been framed and passed entirely for that purpose—viz., the Canadian Foul-Brood Act.

A perusal of the text as printed below will make plain that several of the clauses are not suited for adoption in these islands, but from the full text showing the law as it now stands in Canada some help will no doubt be got, useful in shaping the views of bee-keepers in the Mother Country on the subject.

The Act reads as follows :—

AN ACT FOR THE SUPPRESSION OF FOUL BROOD AMONG BEES.

Her Majesty, by, and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows :—

1. (1) The Ontario Bee-keepers' Association shall, at each annual meeting, or the executive committee of the said association shall, if in the interval between two annual meetings the occasion should arise, appoint an inspector of apiaries and a sub-inspector for the Province of Ontario, and the said inspector and sub-inspector shall be elected by the vote of the majority of the members of said association present at the annual meeting, or the vote of the majority of the members of said executive committee, as the case may be.

(2). The election and appointment of the said inspector and sub-inspector, or their removal from office, as hereinafter mentioned, shall be subject to the approval of the Lieutenant-Governor in Council.

(3). The said sub-inspector may, when so directed, as hereinafter provided, perform all the duties and exercise all the powers in this Act directed to be performed or exercised by the inspector, and the provisions of this Act relating to the inspector shall be deemed to apply to and include the said sub-inspector.

2. The said inspector and sub-inspector shall hold office for one year from the date of the annual meeting at which they were appointed, or if they shall have been appointed by said executive committee, then until the next annual meeting after such appointment, and shall be eligible for re-election, but the said inspector or sub-inspector may at any time, subject to the approval of the Lieutenant-Governor in Council, be removed from office by said executive committee, for neglect of duty or other sufficient cause, and in case of such removal the said executive committee shall without delay appoint a successor.

3. The said inspector shall, whenever so directed by the President of the Ontario Bee-keepers' Association, visit without unnecessary delay any locality in the Province of Ontario and there examine any apiary or apiaries to which the said president may direct him, and ascertain whether or not the disease known as "foul brood" exists in such apiary or apiaries, and whenever the said inspector shall be satisfied of the existence of foul brood in its virulent or malignant type, it shall be the duty of the inspector to order all colonies so affected, together with the hives occupied by them, and the contents of such hives and tainted appurtenances to be immediately destroyed by fire under the personal direction and superintendence of the said inspector, and after inspecting infected hives or fixtures or handling diseased bees the inspector shall, before leaving the premises, or proceeding to any other apiary, thoroughly disinfect his own person and clothing, and shall see that any assistant or assistants with him have also thoroughly disinfected their persons and clothing; provided, that where the inspector, who shall be the sole judge thereof, shall be satisfied that the disease exists, but only in milder types and in its incipient stages, and is being or may be treated successfully and the inspector has reason to believe that it may be entirely cured, then the inspector may, in his discretion, omit to destroy, or order the destruction of the colonies and hives in which the disease exists.

4. The inspector shall have full power in his discretion to order any owner or possessor of bees dwelling in box-hives (being mere boxes without frames) to transfer such bees to movable-frame hives within a specified time, and in default of such transfer, the inspector may destroy, or order the destruction of, such box-hives and the bees dwelling therein.

5. Should the owner or possessor of diseased colonies of bees or any infected appliances for bee-keeping, knowingly sell, or barter, or give away such diseased colonies or infected appliances, he shall, on conviction before any justice of the peace, be liable to a fine of not less than 50 dols. or more than 100 dols., or to imprisonment for any term not exceeding two months.

6. Should any person whose bees have been destroyed or treated for foul brood, sell, or offer for sale any bees, hives, or appurtenances of any kind, after such destruction or treatment, and before being authorised by the inspector so to do, or should he expose in his bee-yard, or elsewhere, any infected comb, honey, wax, or other infected thing, or conceal the fact that said disease exists among his bees, he shall, on conviction before a justice of the peace, be liable to a fine of not less than 20 dols. and not more than 50 dols., or to

imprisonment for a term not exceeding two months, and not less than one month.

7. Should an owner or possessor of bees refuse to allow the inspector or his assistant or assistants to freely examine said bees, or the premises in which they are kept, or should such owner or possessor refuse to destroy the infected bees and appurtenances, or permit them to be destroyed when so directed by the inspector, he may on the complaint of the inspector, be summoned before a justice of the peace, and, on conviction, shall be liable to a fine of not more than 50 dols. or less than 25 dols. for the first offence, and not more than 100 dols. or less than 50 dols. for the second or any subsequent offences, and the said justice of the peace shall make an order directing the said owner or possessor forthwith to carry out the directions of the inspector.

8. Where an owner or possessor of bees shall disobey the directions of the said inspector or offer resistance to, or obstruct the said inspector, a justice of the peace may upon the complaint of said inspector cause a sufficient number of special constables to be sworn in, and such special constables shall, under the directions of the inspector, proceed to the premises of such owner or possessor and assist the inspector to seize all the diseased colonies and infected appurtenances and burn them forthwith, and if necessary the said inspector or constables may arrest the said owner or possessor and bring him before a justice of the peace to be dealt with according to the provisions of the preceding section of this Act.

9. Before proceeding against any person before a justice of the peace, the said inspector shall read over to such person the provisions of this Act, or shall cause a copy thereof to be delivered to such person.

10. Every bee-keeper or other person who shall be aware of the existence of foul brood either in his own apiary or elsewhere shall immediately notify the President of the Ontario Bee-keepers' Association of the existence of such disease, and in default of so doing shall on summary conviction before a justice of the peace be liable to a fine of 5 dols. and costs.

11. Upon receiving the notice in the preceding section mentioned or in any way becoming aware of the existence of foul brood in any locality, the said president shall immediately direct the said inspector to proceed to and inspect the infected premises; provided that when the person giving such notice is unknown to said president, or there is reason to believe that the information in said notice is untrustworthy, or that the person giving such notice is actuated by improper motives, then the said president may require the person giving such notice to deposit the sum of 5 dols. with the president as a guarantee of good faith before the said notice shall be acted upon, and if it shall prove that said notice was properly given, then the said deposit shall be returned to the person giving such notice, but otherwise the said deposit shall be forfeited to the use of the said Ontario Bee-keepers' Association.

12. The said association shall include in its annual report to the Minister of Agriculture a statement of the inspector's work during the preceding year, which statement shall include the number of colonies destroyed by order of the inspector, and the amount paid to him for his services and expenses for the preceding year.

13. The executive committee of the said association may from time to time make such by-laws and regulations for the control and guidance of the inspector in carrying out the provisions of this Act as they may deem necessary, and the said executive committee shall also by law fix the amount of the remuneration of the said inspector and sub-inspector, but all such by-laws and regulations shall be subject to the approval of the Lieutenant-Governor in Council.

FERTILE WORKERS AMONG BEES.

Quoting from the *Journal* of the Royal Microscopical Society, we find that in the Bull. Soc. Entomol., France, 1894, pp. cxcv-vii., Dr. P. Marchal discusses the occurrence of fertile workers, as alleged by several naturalists from Aristotle to Huber, but still doubted by such an authority as Prof. J. Pérez in his recent work on bees. From a case furnished by M. Huillon, the author has convinced himself of the reality of the alleged occurrence. A queenless hive supplied many examples of workers with fully-developed ovaries; the numerous eggs were laid with much irregularity (thus there might be ten in one cell); the progeny consisting of males. Dr. Marchal does not, of course, claim that his observations are novel, but that they are useful as corroboration.

We should have printed the above without calling any special attention to it had it not contained statements which are incorrect. There is, of course, as the author admits, nothing new with respect to the existence of fertile workers, and all bee-keepers who have had an opportunity of making observations, more especially with foreign races of bees, must frequently have come across such workers. Dr. Marchal does not seem to have noticed that naturalists since Huber have made similar observations, and we may here remark that the subject of fertile workers is very fully dealt with in "The Honey Bee, its Natural History, Anatomy, and Physiology," by T. W. Cowan. But what we wish particularly to point out is that it is stated that Dr. Marchal says "A queenless hive supplied many examples of workers with *fully-developed* ovaries." This is surely a mistake, either of the author's or of the reviewer's. According to our own observations the ovaries of fertile workers are only partially developed, and never fully so. At p. 135 of the "Honey

Bee" there is an illustration of the ovaries of a queen worker, and fertile worker, and the difference can be seen at a glance. The following extract from p. 150 ("The Honey Bee") will give the supposed cause of fertile workers :—

All bee-keepers know that occasionally a worker will be found laying eggs, and such an one is called a *fertile worker*. The ovarian tubes, according to Leuckart, have the same structure as those of a queen, and, although never so long as these, are a little longer than those of an ordinary worker (Bienenzeitung, 1857). The oviducts and vagina are very much smaller, there is only a vestige of an appendicular gland, and the spermatheca and bursa copulatrix are entirely absent. It is evident such eggs, if laid, can only produce drones, as they cannot be fertilised, and this is, in fact, found to be the case. The question may naturally be asked, Why their ovaries are more developed than those of other workers? Leuckart discovered (Bienenzeitung, 1855, p. 209) that the larva of a worker was weaned after it had left the egg three days, and, as we have seen on p. 120 (*The Honey Bee*), the food underwent a change, whereas the queen larva received abundantly the same food during the whole of her existence, which he called *royal jelly*. He also found that it is exactly at the time of the change of the larval food that the female genital organs make their appearance, which will remain rudimentary or develop according to the food administered. If, therefore, weaning does not take place at the right time, any excess of royal food will develop the ovaries in proportion, and thus produce a fertile worker, which cannot mate, and can consequently only lay eggs producing males.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE BRITISH BEE-KEEPERS' ASSOCIATION

AND THE FOUL-BROOD CRUSADE.

[2169.] The hearty accord given on every hand to the B.B.K.A. in their bee-pest crusade, as well as in other matters less urgent connected with the well-being of the industry, is exceedingly encouraging to the Committee. They are hard workers, particularly their chairman, and the letters they get, especially from Ireland (where discontent is indigenous) act like a spur to fresh exertion. The want of pecuniary help somewhat hinders operations, but even the financial outlook if not rosy, nevertheless is wearing a brighter hue. Now and then one hears a discordant note, but I attribute it to those concomitants of Christmas, "mincemeat and grumbles," rather than to any real ill-will. Holiday-time and the opening of the new year are periods when sensitive dispositions are apt to get into bilious—or "bill"-ious—frames. We must not, therefore, be censorious, lest we should ourselves be troubled with these unwelcome conditions of body and mind. Here is a result of that which I refer to. "Associations pulling together," says a certain friend of ours, "is the royal road to success, but when you have to do with an unbusinesslike set of men (hear this ye B.B.K.A. committeemen—the last indictment you would dream of!) at the fountain-head. . . . I *could* say a good deal, but—I shall advise our Association to withhold their affiliation fee until the 'British' inform us what they are going to give us for 'our guinea!' Where does the good of affiliation come in?"

The B.B.K.A. Committee are really working like Britons with the object of making bee-keeping more respected and extended, and are doing yeoman service for the craft in the right direction. This specimen of grumbles, or rumbles is, therefore, peculiarly ill-timed, but it is not anything more than I have ventured to explain, and a better frame of mind will quickly supervene. A friend has suggested that the County Associations are getting 40s. for their 20s., but "cent. per cent." nothing like represents the profit accruing to them from affiliation. Without the "British," the County Associations would be but a rope of sand. Also let me add, and add *thankfully*, too, that without the County Associations the British could not venture to attempt what it is now almost sure to accomplish.

In conclusion, let me say—beekeepers who have the general well-being of the industry at heart, should stir themselves to supply statistics *at once*, so that the B.B.K.A. may have the fullest information procurable to back their appeal to the Board of Agriculture. Let each who *can* do so send a little map of his district (however small a district it may be) with a red mark at each place where there is known to be foul brood.—"A BRITON," *January* 4.

MOVING BEES TO CLOVER.

[2170.] In an article on bee-keeping which appeared in one of the Church magazines, and on some part of which you commented shortly after its appearance, the writer attributed a great deal of his phenomenal success to the fact that his hives were moved to a clover

field at the beginning of the honey flow. No caution was added as to any risks which such a proceeding might entail in unskilful hands. I should like to ask your advice upon this question. I live in a good clover district—*i.e.*, there are many large clover fields within from half to three-quarters of a mile of my bees. Under such circumstances, would you consider it wise to move bees at all in order to get them nearer to such fields? If moved, must they not be moved at least two miles? And would not the danger of a lost swarm from a hive two miles off probably counterbalance any possible advantage from closer contiguity to the honey supply? Would not the act of driving a hive over two miles in a vehicle in the height of the breeding season be liable to lead to much dangerous excitement of the bees, and possible loss? It always appears to me that *couleur de rose* descriptions of bee-keeping and bee-methods in popular magazines are not the best way of helping on such pursuits. I always say plainly to intending bee-keepers that it is hopeless to enter upon the work unless they are prepared to take a lot of pains to learn to do the right thing at the right time, and to grapple with the smallest minutiæ of the art. —A CLERICAL BEE-KEEPER, *January* 4.

[With clover fields at the distance named we should never advise incurring the risks, cost, and trouble of moving bees to them in the summer time. To be content with a smaller return would be true economy.—EDS.]

EXPERIENCE GAINED IN 1894.

SHALLOW FRAMES FOR COMB HONEY.

CHEAP CONVEYANCE OF BEES TO THE MOORS.

[2171.] As this is a slack season, and it is some time since I sent you a few lines, let me state how the experience of the last season has modified some views I expressed early in 1894, &c.

As regards thick combs, I had a quantity worked nicely out in shallow frames, furnished with full-size drone foundation; and I consider that when the combs on eight frames are built out so as to fill up an ordinary ten-frame crate, they are sufficiently thick for extracting, and, in short seasons, for using as honey-comb in lieu of sections. I tried to get some extra thick combs, but, owing to the unfavourable season, they were not nearly so evenly finished as the previous year.

In reply to Mr. Woodley's question about extracting from the thickest; I would say that it is possible to do so, especially from the drone cells, but I would not recommend it, as it requires much time and care. My aim is to secure such handsome blocks or bricks of honey-comb that my customers may prefer them to sections, and I may have only shallow-frames for supering throughout the apiary. There would then be an advantage all round: The consumers would have more honey in proportion to the wax, and being packed in butter-paper, its flavour would be preserved better than in sections. The bees would have the receptacle in which they best like to work, and the bee-keeper's work would be much simplified, when he has no sections to yearly buy, make up, and extract when half-filled. Last season I placed 750 sections on the hives, 200 of which had been worked out and extracted in 1893; I removed 250 saleable ones, had to extract about 200, and the rest were not touched by the bees. On the other hand, the result from the shallow-frames was more satisfactory; not to mention numerous frames, which had been worked out in previous years and which were perfectly filled and sealed, I placed on twelve crates of new frames; of these, ten were well-filled, and only two were not worked out. And I ought to add that I generally put the sections in my strong hives. On the moors, too, I have noticed that the bees do better work in shallow-frames than in sections.

Last season I also tried a good swarm in a hive made up of three boxes of shallow frames. The lowest held twelve frames with strips of foundation, above which was an excluder, and then two boxes fitted with full sheets of foundation. The bees worked well in all until the weather broke up; but as they placed a quantity of pollen in even the drone cells of the lower surplus box, I shall for the future cling to the standard frames for the brood-chamber, and give a wide berth to "Heddon" and similar hives.

In August I had the pleasure of meeting bee-keepers from all parts of the county at the Yorkshire Agricultural Show at Beverley; and thanks for the grant of shedding by the council of that society, as well as the assistance of Mr. Jemeison, of York, and Mr. W. Smith, of Preston, I was again able to exhibit the process of extracting in my glass-house. We tried there the "Uncapper" Mr. Meadows made for me, on which we had the advice of some of the machinists on the showground and others. If their suggestions are carried out, and especially if the knives or saws are made thoroughly rigid, there is promise of good success next season.

I also showed at Beverley the following interesting letter I had received from the superintendent of the North-Eastern Railway at York respecting the carriage of bees:—

"With reference to your letter of May 15 last, I beg to inform you that the question of the charges for the conveyance of bees was considered at a meeting of the superintendents of the railway companies generally on July 11, when it was agreed that bees in hives sent in truck-loads to the moors during the heather season, should be conveyed at 6d. per truck per mile, station to station, owner's risk, with a minimum charge of 7s. 6d."

This is the result of some years' correspondence in which I appealed for more liberal terms than "parcels rate" by passenger trains during the heather season.

I hope, now, to call the bee-keepers of this neighbourhood together in the spring, so that we may know how many will be willing to unite in taking or sending their bees to the Whitby moors for a second harvest.

Last season I had the advantage of having ready plenty of travelling crates for the "globe" bottles, which made packing a pleasure.

In future seasons I hope to enjoy a trip to the moors all the more now that the bees can be conveyed — carriage through — (three junctions) at a reasonable rate.

By the by, is it generally known that packages of honey above 14 lb. weight can be sent by passenger trains at half the "parcels rate"?

With best wishes for yourselves, dear sirs, and all your readers, for 1895.—RICHARD M. LAMB, *Burton Pidsea Rectory, January 4*, 1895.

DOUBLE-QUEENED HIVES.

A GOOD WORD FOR THE "WELLS" SYSTEM.

[2172.] Last season I sent you my experience and result with a "Wells" hive, which you will find in your issue of December 14, 1893 (p. 499). The take of honey only being small, 75 lb., considering the splendid sunny season of 1893, but this I think I accounted for by not having shallow-frames made in time, and no shallow combs drawn out, and not having an extractor to remove the honey from the comb. I also mentioned I intended trying two "Wells" hives during the season of 1894, which I did with very much more success. From one "Wells" hive I extracted before going to the moors 200 lb. of honey. This "Wells" hive swarmed, and the bees were returned about two hours afterwards. We divided the swarm into two parts, and replaced one on each side of division board.

My other "Wells" hive did not swarm, I suppose on account of the one side becoming queenless in June, but from this hive I took over one hundred pounds. I fancy the queen got crushed in removing from Bedale to Burrill, a small village about two miles away, which I found a very good district for clover, and a splendid lot of lime trees; but my bees did not gather much from the latter, as the weather changed when the lime trees were in bloom. I have now four "Wells" hives stocked for 1895, and intend making other four this winter.

My result from the moors in 1894 was very poor, but I always consider taking my bees there pays me, even in a bad season, on account of the splendid combs of honey I get for wintering, also having plenty of combs to give to weak stocks left at home, and the remaining combs to be given in the spring. The latter are splendid for stimulating bees. Since I commenced bee-keeping I have not payed more than 10s. for sugar, and I now have four "Wells" hives and eight single stocks. I worked four small hives for sections, and got 105 saleable ones. Many were spoiled with drone brood. Excluding zinc not being used this season.

I was very pleased to see Mr. Wells's result in the BEE JOURNAL, and if he has not made converts in his own neighbourhood he has made a "Wellsite" of one who will have to see or hear of something better before I change. Should this meet Mr. Wells's eye, I shall be most pleased to make his acquaintance if ever he should make a visit in the north. I live about ten miles by line from Northallerton, and shall be pleased to make him comfortable for the night.

In conclusion, I did not intend sending any report, only Mr. Wells wishes to know of some results, and consider this a very small acknowledgment for his trouble and time in developing such a splendid system.—I. H. HORN, *Bedale, Yorks.*

OLD CONTRIBUTORS.

[2173.] In your issue of December 13 (p. 496), Mr. Webster asks, "Where is the big bee-keeper in Glamorganshire? Silent!" Now, sir, as I am the only bee-keeper in this county, as far as I know, who has over 100 stocks, I presume I am intended to be "drawn" or interviewed, and as I have no time for the latter infliction, I will send you a few notes from time to time. For some years I have been running a large apiary, and have regularly employed an expert to do most of the work, because my own time is very limited. However, I have come to the conclusion in future to do all the work myself, because when the real practical daily business of looking after the bees is out of one's own hands, the interest gets greatly lessened.

I see a sanguine correspondent talks of starting a big bee farm. I wish he would buy the back numbers of the *Exchange and Mart*, published last August, and see how completely I and a number of other bee-keepers smashed the fallacy that £300 a year could be made from bees. I know that on paper a bee farm pays amazingly, and I also know from practice that a bee farm does *not pay*. I have tried every branch, including honey raising, queen-selling, and swarm selling, but the average net profit is so bare that two or three bad seasons would reduce my small margin to a decided loss. A dozen or more hives pay well; a big bee farm does not pay, because the seasons are too uncertain, and in not a few districts forty hives is as many as a district will carry.

My bees are wintering well, but it is three months too soon to "crow," because I always find the greatest loss occurs in the spring. In the meantime see that all roofs are water-tight and quilts dry, and see entrances are clear. If short of food give soft candy. By soft candy I mean such as can be easily cut

with a spoon or squeezed up between the fingers. I have never yet been able to make any equal to what Mr. Saddler, of Forfar, sells—his is simply perfection, and far cheaper than most amateurs can make it.—E. J. GIBBINS, *Neath, December* 20.

FOUL-BROOD REMEDIES.

ANOTHER WORD FROM "A GOOSE."

[2174.] Your correspondent, Mr. E. H. Hopkins (No. 2157, p. 4) considers me "a *big* goose." I beg to say I am 6 ft. 1½ in. and weigh 13 st. 8 lb. Now, with considerable care I have taken the dimensions and weight of "E. H. H." entirely from his own letter, and few of your readers will, I am sure, be surprised to find that in height of folly he is by far the *bigger* goose of the two!

Does not "E. H. H." perceive that anyone possessing an infallible specific for an afflictive disease, and making a secret of the agent (*i.e.*, the composition) he employs, is, to say the least, both selfish and inhumane? Bee-pest threatens the welfare of a native industry and is calamitous to bee-keepers; is not that man selfish who has the power to cure it and don't? And further, if he professes to have the power and hasn't, he is a "quack." "E. H. H.," indeed, must himself be a strange compound. Will he please answer the following four simple questions in the next journal? 1. Is he favourable to the spread of glanders? 2. Rinderpest? 3. Rabies? 4. Is he averse to his laundress, his butcher, and his baker, simultaneously nursing in their respective houses, each of them, a fine old case of genuine confluent small-pox *without imposing the smallest restriction on their individual freedom?* In fine, would he like the contagion imported into his home weekly with the washing, and daily with the meat and the bread?

Probably E. H. H. looks on the stringent official regulations that operate so beneficially in our own *favoured land*, to localise and keep in check the spread of these and many other dire diseases, as a sample of (to quote own words) "that ever increasing interference of the State *into* (*sic*) private affairs—restricting as it does the freedom of the individual at every step?" and "all part and parcel of our present-day so-called Socialism!" Oh, patient, long-suffering Editors of the B.B.J.! What are ye not compelled to print? How many are your contributors who disguise their identity instead of signing their PROPER (?) names.

Meantime, pray continue to call me—"A BIG GOOSE," *January* 4.

SOME BEE-FIGURES.

BY A BEE-KEEPER FOR OVER HALF A CENTURY.

[2175] Having been a bee-keeper upwards of fifty-five years (commencing at the age of fifteen)—fifty years as a skeppist and five years as a bar-framist—I cannot but feel very thankful to you as "Editors" for the excellent manner in which you deal with questions from bee-keepers in the B.B.J.; answering them in such a manner that a labouring man like myself can understand and appreciate the good that is being done by its publication, not to bee-keepers alone, but the country through them, as it enables many who, but for his bees, would find the annual "September 29" more difficult to meet were it not for the assistance rendered even by a few stocks of bees in the good old skep.

The story of how I became a keeper of bees in bar-frame hives would probably not be of sufficient interest to your readers. Suffice it, therefore, to say that I have in excellent winter quarters nineteen bar-frame hives, well stocked with bees and stores, which will, I trust, come forth in the early spring like well-wintered colonies only can.

Being in a locality where you scarcely ever see any bee-hive other than the straw skep, and not knowing until the past few years that bees were insects about which books were printed, you will perhaps think we are not up with the times. Well, probably we are not, but all my life, through necessity, I have been up early in the morning to endeavour as far as possible to insure a favourable "Saturday night."

In your issue of the 3rd inst. (page 2), you give some remarkable figures relating to the possibility of producing "British Honey." I have been amusing myself with the figures, and I believe your estimate of 3,250 tons of honey to be a very modest one. Now, at the rate of 6d. per lb., it would yield some £182,000—a sum not to be sneezed at in these hard times; and if we only consider for a few moments we shall find that not only is the £182,000 in the hands of the bee-keeper for the benefit of himself and family, but to produce this sum, and to keep up the stock of bees, will require about 291,200 beehives at the average rate of 25 lb. per hive; these, properly made, painted, fitted, and fully equipped as required, would be worth, perhaps, 30s. each, or £436,800. Now, allow each hive to last ten years, at a cost of 1s. per annum for repairs, &c., and we have £582,400. Half of this amount we must allow for labour, which will be required to make and keep in proper weatherproof repair these 291,200 beehives; this would find employment for 582 men at a wage of £50 per annum—certainly a help in the nineteenth century. Then, if we allow five hives to an apiary, we have 58,240 apiaries, and if there is only the apiarian, his good wife, and one child interested in each apiary, we have 174,720 persons deriving health, pleasure, not a little remuneration (with a few stings thrown in), from our delightful and interesting occupation; if we proceed a little further, we shall find that ad——g (I fancy our Editor will be saying: "Hold, good friend; leave the bottles, labels, and appliances until another time," and so I end this letter).—LETT. TRAB, *Wiltshire.*

COMPULSORY POWERS

AND COMPENSATION.

[2176.] It appears to me that the principal obstacle to the application of compulsory powers is the question of compensation, and if the special committee appointed to deal with the matter can make it clear, it will enable us to make up our minds on the subject. I do not mean that our minds want making up on the desirability of dealing with the disease, but on the question of how? And at the bottom of the whole is this question of compensation. It is all very well to tell the owner of diseased stocks that they are of no value, for in nine cases out of ten he clings to the hope of saving them by means of one or other of the remedies which are advocated, and it is manifestly unfair that an inspector shall be empowered to walk into a cottager's garden, condemn his bees, and destroy them, walk away, and leave him to get over his loss as best he can. It is for the good of the community that this pest should be eradicated, and it naturally follows that in common fairness the community should help to put the unfortunate bee-keeper on his legs again. In all probability the fact of his bees suffering was brought about by circumstances over which he had no control. I do not suggest that this compensation shall be extravagant, but I cannot agree with your idea that diseased stocks are of no value. The same thing may be said of a pig with swine-fever, but I believe the Government pay full value if it is declared within reasonable time. I sincerely hope that the committee will definitely make up their minds to make it clear that when they ask for compulsory powers they will make it a condition that these powers shall be accompanied by a fair and reasonable compensation. If this point is made clear, I believe every bee-keeper in the country will back up the deputation, but without it their efforts will be futile. Numberless difficulties will be placed in the way of officials if compulsion is not accompanied by compensation, and the effort will prove abortive; on the other hand, everyone will co-operate if the two go together, and success will crown the very laudable efforts of the British B. K. A.—A. D. WOODLEY, *Hon. Sec. Berks B. K. A.*, 17, *Market-place, Reading, January.*

[The question of compensation is one that will require the greatest care on the part of those dealing with the matter referred to. It is quite certain that to talk of anything beyond reasonable compensation according to precedents furnished by the present Contagious Diseases (Animals) Act would not be listened to. Moreover, our correspondent is entirely wrong in his view of compensation in cases of swine-fever. *One-half the value* of the animal immediately before it became infected is the most that is allowed. What we are sure the Committee of the B.B.K.A. will strive for is "reasonable compensation," and this we trust will be secured, but the chance of their request being favourably heard would be small indeed if anything like *full value* of a healthy stock of bees was asked for.—EDS.]

SHROPSHIRE NOTES.

MAINLY ABOUT FOUL BROOD.

[2177.] Among your correspondents there are those who write week by week in "our" valuable paper, and whose pithy bits are eagerly sought after, and those who rise to the effort, "like trout at a fly," only just when they feel inclined. I must class myself with the latter. I'll begin by wishing you the com—— No, I won't; you must be already overwhelmed with good wishes. Still, I wish "'em" all the same. Have you had any frost, ice, and snow up your way? They have been piling it on pretty thick down here, and several cold nights, driving winds, with keen frosts have been the order. It makes one's heart feel glad to *know* that our bees are comfortable and snug, no matter how hard "Jack Frost" puts down his heel. The past season in this country has been a fairly successful one, and I think, on the whole, not much under the average. Skeppists seem to have fared rather badly. Some ten or twelve stocks I have driven would not total 70 lb. of honey. Mr. Wells, I consider, records yet another success in his district; still, his "takes" puzzle me. I have given the system a fair trial in competition with two strong single stocks, and the "dodge" won by about 15 lb. in 1893, and about 7 lb. in 1894, but none can touch his average, especially of 1893, 136 lb. Perhaps I do not extract often enough, but leave all honey to be sealed over and ripened in the hive.

All bee-keepers will be glad to see that the foul-brood question is being seriously brought to the front. Those who have read the articles in the *Standard* cannot fail to express their best thanks to friend Webster for putting Mr. Maxwell-Hibberd in the right path. Surely he has been sadly misinformed. Practical experience tells us that the skep is a perfect arrangement for harbouring and spreading the disease; and as to new combs, I've seen brood in them simply rotten, and in my own apiary are brood combs, years old, perfectly clean, and I should hesitate to replace them with new ones. What a grand thing it will be if we can get the Board of Agriculture to take the matter up. But cannot our associations do something? What can ours (Shropshire) do? It is well known that the disease is lurking among us—some districts badly infected—yet we have no means of getting at them. Cannot members be offered something more than "reduced entrance-fees at our shows," and so induce bee-keepers to join? Only the other day I was trying to persuade "a good man" to become a member, and I simply got the

usual reply, "What advantages are there?" And he mourns the loss of several stocks through the disease. Could not associations appoint district secretaries to work and report under their orders? I'm sure gentlemen (probably experts) could be found in many places to undertake the duties free, to try and get into touch with all the bee-keepers in their district, give advice, and, if the "worst comes to the worst," offer to supply remedies free (of course, the association to find these). I for one am agreeable, and would take an eight-mile radius. Apologising for my encroachment, and promising my "next" will not be so long.—SALOPIAN, *Broseley, Shropshire, January* 4.

RECRUITS AND FOUL BROOD.

[2178.] I am glad to see signs that bee-keepers generally are becoming more and more disposed to grapple with the foul-brood question in a practical way, for in my opinion it stands head and shoulders, in respect of gravity and importance, above every other question in bee-keeping. Some years ago I pointed out the inadvisability of striving to enlist recruits whilst the disease still raged unsubdued. Naturally beginners like to get their bees as cheaply as they can, and stocks, swarms, and driven bees, all more or less infected, are, not unfrequently, purchased to begin with, and ignorance and inexperience then combine to still further propagate and spread the disease. I know this is no mere supposition on my part. I could "unfold a tale" that fully proves my case.

I am aware that recruits are constantly being warned by responsible persons against beginning in this way, but, at the same time, every encouragement is also being given to induce people to enter the ranks in some way or other, and such warnings fall flat when established stocks, hives, combs, and bees all complete, are obtainable for perhaps less money than a healthy swarm. Indeed, it is almost a question whether the term "healthy swarm" is practically much more than a *phrase* in bee-keeping nowadays. A guaranteed healthy swarm may be bought, hived, fed, and tended with all the solicitude of a novice with a bad attack of the "bee-fever" on him. In twelve or eighteen months he becomes dissatisfied because his honey returns are not up to sensation-mark. He calls in an expert, who may, or may not, detect the symptoms of foul-brood in its earlier stages existing in the hive. But if he does, how is it to be known or proved whether the swarm was, or was not, infected when received?

I again urge this phase of the question upon the consideration of all concerned, and ask, Is it wise, is it generous, *is it right*, to persuade novices to undertake bee-keeping under existing circumstances? Would not the money and energy now spent by associations and others in recruiting be better employed in combatting the disease?

Of course, bee experts and appliance makers may be expected to resent any cessation of active proselytism, but let me point out to them that their interests are but small compared with those of bee-keepers as a whole, and, if the disease is to be effectively checked, they too must suffer as well as others.

Others will confidently assert that compulsory powers will set all things right. It is to be hoped that they may! I must not attempt to discuss probabilities at the close of a letter. I suppose that no one will deny that there is a "con" as well as a "pro" as to the *efficacy* of compulsory powers. To conclude, I believe that one of the best ways for bee-keepers to check the spread of the disease is to check the *propagation* of recruits in bee-keeping, and then, perhaps, in time it will become possible to draw a cordon round infected districts and adopt comprehensive measures for stamping out the plague.—H. T. SPICE, *Sussex, January* 4, 1895.

[We rather think the weakness of our correspondent's argument lies in the fact that old hands at bee-keeping—imbued with old prejudices—are the greatest offenders so far as foul brood goes. The recruit of to-day who starts fairly well informed as to the mischievous character of this bee-pest, must be blind indeed if unmindful of the dangers to which our correspondent draws attention.

To our mind, anything tending to put a stop to, or even check, the rapidly-awakening interest in the pursuit would be a retrograde course, and one not justified by what are known as the facts of the case. Rather let us have an increase in the number of educated and intelligent bee-keepers, and fewer of those who refuse to be taught. The spread of technical education in bee-keeping—free to all—combined with a certain amount of State control, is the remedy we look to with much confidence as to the final result.—EDS.]

A RETURN LETTER: BY "BEE-KAY."

[2179.] I do not know whether "Mrs. Harrison" or "Beta" intend to respond to "A Scottish Cousin's" invitation to "report" themselves (2137, p. 503), but as "Bee-Kay" is included in the trio, she will do her little best to say something, though it prove of small interest. "A Scottish Cousin's" experiences are grand; may they ever be such, and I congratulate her upon her success this year. She is evidently a true bee-keeper, her heart in her work, and no trouble too great, to say nothing of profiting by experience. I prefer to buy my experience at other people's expense. It can be done in some cases, but in bee-keeping the bees often determine you shall buy it at their price. Personally, I am afraid I am one of those who help to "bring up the rear," though my interest has by no means abated, and my B.B.J. is one of the pleasures

of the week. But, practically, I am "far ahin'." My season has been a bad one; I only averaged 15 lb. per hive. There is no old pasture land very near, and the drought of 1893 dried up all seeds to such an extent that sown clover was an unknown crop, so far as my bees were concerned. I have six bar-frame hives and one skep. I had three to feed in September—they literally had nothing. The other three were well off, and the skep fairly provided for. I put on candy in October, a month later had to renew it; they had either eaten or "taken down" every scrap, and as I was leaving home until the end of January, I wished to be on the safe side. The Lincolnshire County Agricultural Show was within six miles of me, so, for the good of the cause, I entered twelve sections and twelve 1-lb. jars of honey. When the time to show came I had only fifteen sections to choose my twelve from; but I took the second prize, so thought I did well, as I knew I was having a poor "do" all round. I have not heard of any large "takes" or averages in my corner of Lincolnshire, though many bee-keepers were more successful than I was. Here endeth my "Echo," and I would like to thank "A Scottish Cousin" for remembering my name amongst others, and wish her and all bee-keepers a very Happy New Year. May "the winter of our discontent be made glorious by the summer sun" of 1895.—BEE-KAY, *January* 3, 1895.

SHAM BRITISH HONEY.

[2180.] I find bottles of honey exposed for sale with the words "Pure British Honey" on the bottles, and on making further inquiries I find the honey is from Jamaica. On remonstrating, I am told that "it *is* British honey, because Jamaica is a British possession." Is not this misleading?—A LOVER OF GOOD HONEY, *January* 5.

[It is worse than misleading, we should call it a fraud.—EDS.]

KENT B.K. ASSOCIATION.

The Kent Bee-Keepers' Association will hold their annual meeting at the Pump Room, Tunbridge Wells, on Wednesday, January 16, at 4 p.m. Members and all interested in bee-keeping are invited.

At 5.30 a conference of Kent and Sussex Bee-keepers will be held, with the object of promoting a bee-keeping association for the county of Sussex. Tea provided.

At 7 p.m. a lecture on practical bee-keeping will be delivered by Mr. W. H. Harris, B.Sc. (Lecturer on Bee-keeping to Univ. Ext. College, Reading), with lantern illustrations.

Admission free by ticket to be obtained from Mr. J. Garratt, hon. sec. K.B.K.A., Meopham, Kent, or Mr. H. G. Groves, 14, Pantiles, Tunbridge Wells. A stamped addressed envelope should be sent.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of December, 1894, was £2,894.—*From a return furnished by the Statistical Office, H.M. Customs.*

METEOROLOGICAL SUMMARY.

DECEMBER, 1894.

WESTBOURNE, Sussex, Dec. 1894.

Rainfall, 2·22in.	Sunshine, 67·8 hours
Heaviest fall, ·42in. on 14th.	Brightest Day, 27th, 6·6 hours
Rain fell on 18 days	Sunless Days, 14
Below average, ·29 in.	Above average, 10·4 hours
Maximum Temperature, 50° on 18th.	Mean Maximum, 43°
Minimum Temperature, 25° on 31st.	Mean Minimum, 34°
Minimum on Grass, 18° on 28th.	Mean Temperature, 38·5°
Frosty Nights, 13	Maximum Barometer, 30·66° on 27th.
	Minimum Barometer, 29·25°, on 30th.

L. B. BIRKETT.

Locality, Stoke Prior, Worcestershire.
Height above sea-level, 225 ft.
Rainfall, 1·89 in.; heaviest fall, 0·34 in. on 14th.
Rain fell on sixteen days.
Snowfall, 0·15 in. on 29th.
Max. shade temp., 50° on 13th.
Min. temp., 22° on 4th.
Max. shade temp. at 9 a.m., 48° on 12th.
Min. temp. at 9 a.m., 23° on 4th.
Frosty nights, thirteen.
Max. barometer, 30·4° on 27th and 28th.
Min. barometer, 29·1° on 22nd.

A mild Christmas. Bee flying very freely on the 25th and 26th, making quite an audible hum. A sharp frost set in on the 28th. Some strong winds during the month. Overturned hives reported. A falling barometer at close of month. PERCY LEIGH, *Beemount.*

WEATHER REPORT FOR 1894.

WESTBOURNE, Sussex.

Rainfall, 39·04in.	Sunshine, 1740·9 hours
Heaviest fall, 2·27 on Oct. 24	Brightest Day, June 29, 15·2
Rain fell on 192 days	Sunless days, 65
Above average, 11·07 in.	Below average, 84·4 hours
Maximum Temperature, 82° on June 30, and July 1	Mean Maximum, 54·9°
Minimum Temperature 12° Jan. 5.	Mean Minimum, 42·1°
Minimum on Grass, 10° on Jan. 5.	Mean Temperature, 48·5°
Frosty Nights, 57	Maximum Barometer, 30·70° on Sept. 30.
	Minimum Barometer, 28·28° on Nov. 12

L. B. BIRKETT.

A SWARM (?) IN DECEMBER.

As showing the mildness of the season, a Long Sutton (Lincolnshire) correspondent reports that a few days ago there was a swarm of bees on the farm of Mr. H. M. Proctor, of Spalding, at Sutton Crosses. Such an event in December is believed to be unparalleled.—*Echo, December* 31, 1894.

[From the number of copies of the above, cut from various newspapers and forwarded to us, it would appear as if the "event" re-

ferred to had been recorded all over the kingdom. One correspondent in enclosing it asks, "Is this an early or a late swarm?" We do not know, and, instead of even hazarding a guess, we prefer to take refuge in the words of the wary old peep-show man, who, when asked by the urchin, "Wich is Napoleon's army and wich is the Alps?" replied, "Wichever yer likes, my deer; yer pays yer money an' takes yer choice."—EDS.]

Queries and Replies.

[1225.] *Bees Blown Over in Storms.*—During the gale last week one of my beehives was partially overturned; the lid was blown off and the frames were slightly displaced, but none of them actually fell out. Fortunately it was not very cold at the time, though it was raining slightly. I don't think the accident could have happened very long before I discovered it, as the bees were still clustered on the frames. The colony is a fairly strong one, which I have fed up well. (1) Is it likely that the young brood has been killed by the exposure? The bees themselves seem all right, as far as one can judge. (2) If the brood be dead, how can I detect it? (3) What would you advise me to do in the event of the death of the brood?—RONALD H. ARCHER, *Yarmon-Tees, January* 4.

REPLY.—1. There will probably be little or no brood in the hive at this season, consequently no alarm need be felt. 2. Should there chance to be a little brood, its failing to hatch out can only be discovered by examining the combs a fortnight or so hence. 3. The chances of mischief in the direction indicated are so remote that we should take no trouble by way of examining for dead brood.

Echoes from the Hives.

Chippenham, Wilts, January 2, 1895.—In this neighbourhood bees have been flying more or less every week till the last few days, when bitter north-west winds and severe frost have, I guess, made them "hug up" pretty close. On Christmas Day young bees were flying from several of my hives, and one stock was carrying in pollen. Although my own bees did much better in 1894 than in 1893, I expect to hear of many cases of starvation among skeppists, as, during my driving excursions, the heaviest skep I "took up" would not yield more than 12 lb., while some would not yield 1 lb., and, even where their owners are willing to be at the expense, they will not be at the trouble of feeding them. In the recent floods one bee-keeper here lost the whole of his five hives. I would like to ask where are the reports of those who tried "bee-swarming in March and April?"—F. W.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

(REV.) J. W. SCAMELL (Rugby).—*Transferring Bees.*—The skep now placed above the top-bars of frame-hive (No. 1) should remain there until full possession has been taken of the lower hive by queen and bees for breeding purposes, when it may be removed. You might work the frame-hive on the double-queen or "Wells" plan if it holds so many as sixteen or eighteen standard frames. Referring to Nos. 2 and 3, we do not at all like to advise beginners transferring bees and combs from skeps to frame-hives. It is to them a risky and often unsatisfactory operation. We much prefer to advise peopling new frame-hives with swarms, then filling the frames with patched-up old combs. If you do decide to transfer—and, indeed, for general purposes—the help of a "Guide Book" giving full instructions for carrying out the operation is indispensable for one inexperienced.

R. H. CLOUGH (A beginner, Littleborough).—*Transferring from Skeps to Frame Hives.*—If your district is a poor one for bees it, of course, the chances of success whether skeps or frame hives are used. 1894, however, was not a good honey season. As to your transferring the bees and combs from skeps to frame hives, we do not recommend you to try it. Far better to let them swarm and hive the latter into the new hive. Replying to your query, "Which is the best hive for the purpose?" choose one of the simplest construction, not costing over 10s. 6d. When you have succeeded with the bees, go in for what you think best, but for the present only invest in what is really needed. White clover seed may be scattered along suitable roadsides with advantage to bees where none grows naturally, but they should have free forage without the need for "sowing" to supply honey if they are to be made profitable.

GEO. STOCKS.—*Criticising Mr. Wells's Report for* 1894.—Our correspondent, dealing with the above, declares "the figures to be misleading." Why, we fail to see; because if Mr. Wells sold his honey at the price named it would be rather absurd on his part to state other than the facts.

F. FRANKLIN (Hungerford).—*Rendering Wax.*—By "throwing up continuous bubbles" we suppose you mean scum, which should not be difficult to remove by skimming off while hot. Refer to B.J. for April 19, 1894, p. 159, for information as to using acids in rendering wax, and extracting generally.

We have several interesting articles in type, but crowded out for lack of space, all of which will appear next week.

Editorial, Notices, &c.

USEFUL HINTS.

Weather.—So long a time has elapsed since our last allusion to the weather in this column (on December 13), that quite a period of severe frost—extending over some ten days or more—has "come and gone" in the interval. The hard wintry weather which set in on the closing day of the old year has, no doubt, set some readers "a-thinking," on the condition of their bees, and it will be well to get such stocks as are badly provided with food, started on candy so soon as a warm day rouses them into full activity. By inserting a cake of properly made *soft* candy right over the cluster, and covering all warmly down to retain the heat, many a stock will be saved.

"Compulsory Powers" for dealing with foul brood.—This subject continues to occupy a prominent place in our pages, and is likely to do so for some time to come; it may, therefore, not be out of place, in the column primarily devoted to "Useful Hints," to state in what way the help, most likely to be of value, may be rendered. In doing this we are led to refer to the length of time the Committee of the B.B.K.A. have now had this matter in hand. For several years past the question of how to deal effectively with the evils wrought to bee-keeping by the spread of foul brood has been periodically discussed at Jermyn-street; and so far back as September, 1891, a special meeting was convened "to take into consideration the report of the special sub-committee appointed at the previous committee meeting, to consider and report on the best means of calling the attention of the authorities to the fact that foul brood is to the bee-keeper what pleuro-pneumonia is to the farmer, and, as such, it should be compulsory to report it."

One result of this meeting was that maps of the several counties were forwarded to the secretaries of the affiliated associations with a request that they would indicate the several localities in which foul brood was known to exist in their districts; and "it was further resolved that a special committee be appointed to bring under the notice of the Minister of Agriculture the desirability of including the number of hives and other information relative to bee-keeping in the annual agricultural returns."—(See B.J., October 1, 1891.)

The effort made in '91 did not result so satisfactorily as was hoped, mainly, as it appeared, because of the rooted objection, then prevailing among the bee-keepers, to its being known that foul brood existed in their apiaries.

Wiser counsels, however, now prevail, and the feeling that decisive measures are needed for mutual protection has done away with much of the unaccountable reticence formerly displayed, and the question being now considered ripe for dealing with it is confidently expected that the desired information will be forthcoming.

The steps taken by the Committee of the Irish Bee-Keepers' Association—reported on page 22—is worthy of attention so far as the heartiness with which the action of the B.B.K.A. is supported, and as indicating the nature of the information required for laying before the Minister of Agriculture.

It is, of course, quite in the order of things that opinions should differ as to the advantage or otherwise likely to follow possession of the powers sought for. But, admitting that the evil exists and is increasing, also that the enormous damage to the pursuit caused by its ravages are real and not imaginary, we cannot conceive how opposition to State interference can be maintained by sound argument. Private effort is powerless, nor can bee associations do more than deal with their members, and even with these in only a limited degree, for lack of funds.

We are quite aware that British bee-keepers share the objection entertained by all "Britons" to any encroachment on the liberty of the subject, especially when the intrusion means depriving a man of what is his own, and that whether he likes it or not. But wherever order and good government exists, there must also be found *law*, which means power to deal with any source of damage or cause of mischief to the community at large.

We trust those who anticipate that the possession of these powers will lead to injustice to individuals will dismiss from their minds any such fears. One corre-

spondent, whose opinion we value, says: "Suppose the disease breaks out in a large apiary, such as mine, with fifty or one hundred hives, will the inspector condemn the lot because the disease in its incipient stage has appeared in one or two hives?" We can only say if any such powers were proposed to be conferred on an inspector we should condemn the proposal as absurd and uncalled for.

The Canadian Foul Brood Act has been referred to, but, as we stated when publishing the text of that Act, many of its clauses are unsuited for adoption here. Any way we may take it for granted that the entire absence of provision for compensation of any kind would make British bee-keepers regard it with disfavour—for in the minds of some "compensation" is the all-important question of the whole subject—and it is this point we should like our readers to be clear upon.

"The Contagious Diseases of Animals Act, 1894" [57 and 58 Vic., chap. 57] is the only Act or law on which the Board of Agriculture can take action at the present time. The text of this Act is before us as we write, and the portion in which bees might possibly be included is section 16, clauses (1) and (2), which deals with Swine-fever. These clauses read thus:—

16.—(1). The Board of Agriculture may, if they think fit, in any case cause to be slaughtered—

(*a.*) Any swine affected with swine-fever, or suspected of being so affected; and

(*b.*) Any swine which are or have been in the same field, pig-sty, shed, or other place, or in the same herd, or otherwise in contact with swine affected with swine-fever, or which appear to the Board to have been in any way exposed to the infection of swine-fever.

(2.) The Board shall for animals slaughtered under this section pay compensation as follows:—

(i.) Where the animal slaughtered was affected with swine-fever, the compensation shall be one-half of the value of the animal immediately before it became so affected.

(ii.) In every other case the compensation shall be the value of the animal immediately before it was slaughtered.

After careful perusal of the full text of the above Act, it seems safe to say that its provisions—as laid down therein—do not meet the case of insects, and by no stretch of the imagination can bees be classed as animals. We may, therefore, assume that a short Act of Parliament will be needed. Should this boon be obtainable—and there is much to encourage the anticipation that it will be secured—the whole situation will undergo a change, favourable in every way. Bee-keeping will be included among the industries of the kingdom receiving State aid and protection; and once this aid and protection is secured there need be no fear as to its efficiency and thoroughness.

Finally, if bee-keepers will combine in promptly furnishing information on the points deemed important, viz.:—(1) Statistics as to the number of bee-keepers in their districts, and the kind of hives (skeps or frame-hives) in which the bees are kept; and (2) the number of places in their locality in which foul brood is known to exist; they may very safely leave all side issues in the hands of those who are taking the lead in the matter, being fully assured that nothing is desired other than the general good of the craft.

Communications containing information on the points indicated above will, if desired, be regarded as confidential so far as names of senders, and may be addressed to the Secretary B.B.K.A.; Mr. John Huckle, King's Langley, Herts; or Editors B.B.J., 17, King William-street, Strand, London, W.C.

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on 8th inst. Very important letters were read from Mr. Cowan, chairman of the British Bee-keepers' Association, with regard to the deputation, which is about to wait upon Mr. Gardner, Minister of Agriculture, to ask for the extension of the Contagious Diseases (Animals) Acts to bees, with a view to the compulsory destruction of stocks infected with foul brood. In reply to a request from Mr. Chenevix, Mr. Cowan expressed his perfect willingness to urge that the measure asked for should be made applicable to Ireland as well as to Great Britain.

He stated that a resolution of the Irish Bee-keepers' Association committee, in favour of this request being made, would strengthen the hands of the B.B.K.A. deputation very much, so far as Ireland is concerned, and that it would also help the cause if it were known that they were supported by bee-keepers in Ireland, as well as in Great Britain. The following resolution was passed unanimously:—"That we, the committee of the Irish Bee-keepers' Association, heartily approve of the movement to secure Parliamentary action

with a view to having foul brood in apiaries dealt with on the lines of the Contagious Diseases (Animals) Act. We assume there will be no question as to the extension of any proposed legislation to Ireland, as the disease is very prevalent here."

The attention of Irish bee-keepers is directed to the above, and they are earnestly requested to give the object of the deputation their hearty support, especially as, without this, the measure, even if granted for Great Britain, would probably not be extended to Ireland, and thus an opportunity would be lost—which might not soon recur—of stamping out a most malignant disease. Support can be given in the following ways :—1. By sending to Henry Chenevix, hon. sec., 15, Morehampton-road, Dublin, particulars as to the disastrous effects of foul brood, and the districts in which it is prevalent, in order that the information which the committee are about to supply for the use of the deputation may be of the fullest possible character. Reports of cases in which bee-keeping has been abandoned in consequence of the disease would be especially valuable. 2. By advocacy of the cause through the Press. 3. By endeavouring to secure the support of Members of Parliament without distinction of party. No time is to be lost. A short act would be required, and the sooner the deputation waits upon Mr. Gardner the greater is the chance of such an act being passed in the ensuing session.—HENRY CHENEVIX, *Hon. Sec., Irish Bee-keepers' Association*, 15, *Morehampton-road, Dublin.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

"NOTES BY THE WAY."

[2181.] The weather during the past week has been seasonable for January—frost, snow-rime, rough winds drifting the snow, and rendering the roads impassable; and yet the ordinary Britisher will persist in calling these many discomforts seasonable!

The bees have been confined to their hives nearly three weeks, and a change, which I hope a south wind and falling barometer, with a rising temperature, portends, will be acceptable to enable them to get a cleansing flight.

The item "foul brood" is the principal theme in recent numbers of the BRITISH BEE JOURNAL, and the majority contend for "compulsory powers" to deal with the subject. The full text of the "Canadian Foul-Brood Act," given last week, is a precedent on which no doubt our own action in the matter will be based—our editors do not give the year in which the act became law—but I believe it was in 1890 or 1891, and I also think that Mr. Wm. McEvoy was the inspector appointed by the (incorporated) Ontario Bee-keepers' Association at that time, and that he has held the post up to the present time. The act, section 3, invests the inspector with power to consign all colonies, and all hives occupied by the infected colonies and appurtenances tainted with the same, to the fire immediately, and in the inspector's presence, and then he is instructed to thoroughly disinfect himself and his clothing; but in cases where the disease is of a milder form (*i.e.*, incipient cases), he may use his discretion and withhold his hand and allow remedial measures to be tried.

Now, right here I ask—Is sec. 3 of the act carried out in the fourth year of the act's existence? My readings of the *American Bee Journal*, *Bee-keeper's Review*, and *Gleanings* (all American publications on bee-culture) lead me to say that Mr. McEvoy, the foul-brood inspector of the Province of Ontario, does not use his powers in trying to stamp out the pest by burning, but that he has adopted remedial measures which he (Mr. W. McEvoy) asserts cures every time! What are those measures? Not disinfectants, not nostrums of mysterious compound, but simply removing all combs from the bees in the affected colony, giving the bees starters only in frames, and on the evening of the fourth day removing the frames with the starters and any and all work the bees may have accomplished during the time. Then he inserts new frames, with full sheets of foundation in the same hive in which the colony has hitherto been living, and by this simple method Mr. McEvoy asserts the colony is cured. This is the result of practical experience, gained in dealing with the disease in the Province of Ontario, and the assertions of a man who has proved it in hundreds, nay, I may say, in thousands of cases.

This, I am fully aware, is in direct opposition of the theories of our scientists; but, I ask, have our scientists cured the disease, and if they have failed in the past, are they likelier to find cures in the future? If we have tried their remedies, and proved them failures, it is quite time to turn from theories and put practical common-sense to the test; and here I contend is tested common-sense to our hand, and those who wish to rid their apiaries of foul brood will do well to give McEvoy's method of curing the disease a fair trial—not a modified method of their own invention, but

McEvoy's method pure and simple—at the proper time I will, with Editors' permission, write it up again. In the meantime I will write Mr. McEvoy for full instructions.

Sec. 4 of the act, if followed in our case, will, alas, clear out the long-cherished straw skep and box hive, leaving only movable comb hives in existence. This will simplify matters in dealing with the disease. In fact, I cannot see how an act can be of much service unless these old-fashioned bee domiciles are cleared out of the way, and every colony of bees are in a get-at-able hive, having movable combs, so that inspection can be made of all parts of the brood nest. Alas, for the picturesque, another of the old fashions seems likely to be doomed, and will only live in memory, or as trade-marks, or in the pages of past masters in bee craft.

Secs. 5 and 6 contain the stripes by which dealers in second-hand bee gear from infected apiaries shall receive as their flagellation. It properly includes the careless bee-keeper, who allows any combs to lie about; also the reticent bee-keeper, who would "keep it dark" that his bees were diseased.

Foul brood is well known to be a contagious disease, *i.e.*, communicated by contact, but I do not think that the spores can possibly be wafted about by the fanning wings of the bees at the entrance of the hives; if such was the case, the whole interior of an infected colony would be infected, and every cell containing brood must, of necessity, become diseased and the colony become extinct in a very short time; whereas it is a well-known fact that colonies infected with the disease linger on a long time. Or, take an experiment by the bacteriologist of the Provincial Board of Health of Ontario, Mr. Mackenzie, B.A., who chilled some brood in the cells, then infected some of the cells with foul brood, allowed the chilled brood to putrify in a moist chamber for a fortnight. After that time he obtained foul brood from the cells he had infected, but could find no traces of it in the other cells, and after the same piece of comb had been kept in the moist chamber for months, the chilled brood was still free from foul-brood germs, except the cells at first infected. Since Mr. MacKenzie investigated the matter, Dr. Howard, M.D., of Texas, has conducted experiments on similar lines, which go to prove that foul brood cannot infect healthy brood that are placed only three-quarters of an inch distant, unless brought into actual contact with each other; these experiments prove that the spores of foul brood are not floating in the air of hives containing colonies suffering from foul brood.

I should consider a request to the Ontario B. K. Association, Canada, asking if their legislative powers has proven as useful as they anticipated or hoped it would in the suppression of foul brood—a timely move, before we try to acquire legislative powers ourselves. Possibly there are some of our readers who take the *Canadian Bee Journal* and can post us up on the point.—W. Woodley, *Beedon, Newbury.*

BEE NOTES FROM SUSSEX.

[2182.] In the B.B.J. for November 15, 1894, at page 453, you were kind enough to publish a letter from me, No. 2112, and to give me some most sound and practical advice in response to some queries of mine contained therein. I wish first of all to acknowledge my obligations to superior experience and wisdom, and to describe how I have benefited by your valuable counsel. It will be in some respects a confession of errors; but so long as it remains true that *humanum est errare*, so long will it also be equally true that we may profit most by our mistakes, if we only use them in the right way.

In primis, I was mistaken in the amount of syrup fed to my six hives (counting a "Wells" as two stocks, which it seems to me we cannot help doing). There was a miscalculation during my five weeks' absence, and only about 200 lb. (instead of 250 lb.) of sugar was fed to them. I don't know how much syrup this would represent. Perhaps you could kindly give a formula for this, which might prove useful to others beside myself? [Roughly speaking, about 250 or 270 lb.—Eds.] At any rate, my bees only received in consequence something like 33 lb. of sugar for each stock.

When I discovered this, I began to doubt the accuracy of some of my conclusions. And, in effect, upon lifting the upper stories, in accordance with your advice, I soon discovered that appearances had been deceptive, and that little or no comb building and storing had taken place below. In fact, there was only one hive in which I could venture to drive the bees below, and place excluder zinc between brood chamber and lift of shallow frames. But I also transferred the frames in both divisions of my "Wells" hive from the upper to the lower story (they were *all* standard frames), and covered the brood chambers with excluder zinc, because I particularly want some standard frame combs built out above in the spring, and I wish to watch the process through my glass covers. Of course, I shall have to feed well for this.

My other three hives each have the bees in the upper shallow lift, with a brood chamber below filled with standard frames, with starters, or incomplete and empty combs. The bees of one of these three hives dwindled unaccountably during my absence, and did not take food like the rest. I should suppose they were queenless, were they not so thoroughly content and active. To-day I glanced at them through the glass under the quilts, and although it was just freezing outside, they were cheerfully roaming over the tops of the combs, with plenty of sealed stores within reach. I should explain that they are in a sheltered spot, with full exposure to the sunshine throughout the day—and it shone brightly all to-day. But

there are hardly two seams of them, and yet they appear quite happy.

The bees in the remaining two hives cluster over the tops of the frames right up against the glass covers, which, far from shunning, they appear to like. They all seem well and strong, flying singly until the frost set in a week ago; and, of course, I am careful not to take more than a momentary glance at them, and keep them well covered, over the glass, with six thicknesses of carpeting and carpet-felt. They always feel warm.

Since the beginning of December, although the weather here was singularly mild, the rain and mist were so continuous that I do not think the bees came out in numbers on any single day; at least, I have not observed it. I have before me a tiny nosegay picked from my small garden on the shortest day (December 21), and it contains rosebuds, mignonette, primroses, sweet alyssum, wallflower, cornflower, violets, everlasting-mallow, calendula, and stock; a curious mixture. Things seem quite out of season. Some spring stocks have nearly done flowering; one or two campanulas are blooming, while the autumn alyssum is not yet over, although that sown for the spring is already in flower. The laurustinus is flowering profusely, and in November was much favoured by the bees. Of course, the hard frosts and slight snow have spoiled and checked all this; but it was pleasant while it lasted. It was time, however, that the too-forward buds and blossoms should be checked; but daffodils and crocuses are already showing above ground, and I first saw some ten days ago.

I was much amused the other day, on looking down at one of my clusters of bees, to observe a large fly hovering around it inside the hive, apparently very happy, and quite ignored by the bees. Now, if I mistake not, I had some days previously observed this gentleman, or his first cousin, making desperate attempts to enter the hive. He would roam about the entrance in an aimless and careless manner, but each sudden attempt to enter was frustrated by an angry buzz and rush from the sentinel bees. However, there he was at last in comfortable winter quarters, evidently well satisfied with himself and contemptuously tolerated.

A query which has occurred to me is this: watching my bees in their endeavours to pass from the tops of the frames to the under side of the glass covers has made me ask myself—Are not the bits of brace comb the bees' ladders or staircases? And are we right in always removing them? I have made up my mind to destroy no more, except where absolutely necessary, because, for the life of me, I cannot see how, without their help the bee is to pass up and down through the stories of the hive with anything like facility and despatch.

However, this letter is far too long, and I hasten to conclude, with my best thanks and all seasonable good wishes to the BRITISH BEE JOURNAL, its courteous conductors, and all fellow-readers and contributors.—W. R. N., *Sussex, January* 4.

THE "BURNING QUESTION."

[2183.] I have read your very interesting and instructive journal now for some years, and thought it was quite time I sent you a line to say how much I appreciate the valuable teaching therein contained. The practical application of "Useful Hints" has brought to me a fair measure of success, till the hive and its busy workers have a fascination for me which few things can equal. Until I became a reader of the B.B.J. my knowledge of bees was confined to skeps, sulphur-pits, &c., and I know of no method so likely to make keepers of bees *bee-keepers* as a weekly acquaintance with the best thought and practical experience of those who have made the subject a special study.

Talk about "a large capacity for ignorance," friend "Goose" (p. 504), why, some folks have lived between sixty and seventy years, and have not yet learned to distinguish a *bee* from a *wasp!* I had a fine swarm treated to a bucket of boiling water as soon as they had clustered, and lest this should not prove sufficiently destructive, a pound of powdered sulphur was sprinkled over the poor wriggling mass of bees—"I don't want the wretched *wasps* in my house" (thirty yards down garden), "kill 'em all, gardener!" He did his (best) worst. "What did I do?" Did a weep—couldn't help it.

The "burning question" will, I trust, ere the close of '95, have become a question of burning, and the application of the "Contagious Diseases (Animals) Act" applied to bees under the administration of B.B.K.A. Experts only have done much to rid the industry of this noxious pest, but I am told authorities move slow. Then agitate, agitate, agitate! Let it be at once understood and acknowledged that bee-keeping is a profitable rural occupation, and foul brood as detrimental to success as lung or foot-and-mouth in cattle, and the application of the law as just and reasonable in the one case as in the other. But there are other considerations apart from the stamping out of disease which must not be altogether ignored. In the case of animals, a suitable place of habitation has to be provided, and all reasonable precautions taken to prevent an outbreak. Oh, that this were applied to bees! Some persons provide for the comfort and well-being of their bees in such a manner, especially with bar-frame hives, as to court disease and failure. I went to see some recently advertised for sale, and I found, not simply disease, but every provision for safety and comfort absolutely disregarded. Wide entrances, leaky roofs; hives looked ten years old, and never seen a coat of paint; bees covering perhaps two frames, with nine or ten

mouldy combs to keep warm into the bargain; no sealed stores, and, of course, no candy; two thicknesses only of covering, and this damp and mildewed. One is reminded of a certain society established for the prevention of cruelty, &c.; but notwithstanding occasional instances of this kind, one is glad to find that in '94 "the pursuit has made very marked progress." What shall be done in '95? Double queen stocks will become more popular as the economic principle is more fully appreciated and the simple details of Mr. Wells's system more minutely carried out; the self-hiver will be brought nearer perfection; additional colonial competition give an increased impetus to the home industry; and, what is most important at this juncture is, double the number of readers of the B.B.J. I'll venture a suggestion, Messrs. Editors (asking your pardon for the audacity in a first letter). (Eightpence enclosed). A few coppers' worth of odd copies, please, for gratuitous distribution (enclosed cost) among non-reading bee-keepers, and that one at least may become a permanent reader. That success may attend the efforts of B.B.K.A. committee *re* "the powers," and a happy and successful new year to the craft, is the sincere wish of— OLD EBONY.

[We are very pleased to forward odd copies *free* so far as stamps sent cover cost of carriage, and will gladly furnish such to others for the same object, and on same terms.—EDS.

SCHOOLMASTERS AND BEE-KEEPING.

[2184.] From the *Schoolmaster* of December 29, 1894, I extract the following communication. It is a paper read by almost every teacher in the kingdom :—

"KEEP BEES.

"SIR,—I understand that in consequence of great loss caused to bee-keepers, among whom are many members of the union, throughout the country, by the prevalence of 'foul brood,' steps are being taken to bring the matter under the consideration of the Government, with a view to the prevention of the disease. Many rural members of the union are probably interested in this subject, and I should be glad to hear from any of them who have views upon this point.—J. H. YOXALL, *General Secretary, National Union of Teachers*, 71, *Russell-square.*"

I see there are a couple of "geese" quarrelling in the B.B.J., and feathers are flying considerably. It is generally supposed that age, rather than height or weight, determines that peculiar "density" common to the goose tribe. I believe they live, if permitted, to a great age. Willoughby records an instance of one that reached the age of eighty years, and was killed at last for its mischievousness! I hope no such untimely fate awaits either of your combatants.—E. D. T., *Eynsford, January* 12.

BOGUS FOUL-BROOD REMEDIES.

[2185.] When I read the communication 2158, p. 4, in last week's JOURNAL I was not aware who "Wilfred Hardie" was, nor do I now know who he is, as we have no person of that name belonging to our association (Worcestershire), in which county Bromsgrove is situated; but on seeing the statement anent expert's remarks *re* "foul brood and American mixture" I naturally became curious as to what expert (?) he could refer. I was certain I had made no such rash and unguarded statement as that quoted, because I have a very wholesome dread of the horrid pest, and hence could never do such a foolish thing as "introduce a foul-broody comb into a healthy stock of bees," neither for the purpose of "experimenting" nor any other purpose, as unfortunately I have met with too many opportunities of experimenting without making such. Perhaps we may hear again from your correspondent, when he will inform us to whom he refers. To say the least, it was very unwise for any expert to make such a remark in the hearing of an inexperienced bee-keeper.

With reference to a "mixture of American invention," I also should be glad to meet with it; and then—yes, and then!—I'd tell to all around what a precious remedy I'd found—but, alas! Bosh!

I am pleased to say that, so far as my observation and information extend, our county is not suffering from this pest to any great extent; but I fear, when I see, as I sometimes do, the slovenly way in which some apiaries are kept that the "conditions" are being made ready for its introduction, and the path is being prepared along which it will travel with rapid steps.

I will not enter upon the question which forms the burden of your "editorial" of last week, except to remark that I am quite at one with you as to the importance and the absolute necessity of some such steps as those suggested by the special committee being taken without delay, and to this end I will endeavour to furnish for the committee's use such information as I may possess or obtain respecting my own county.

Trusting you may be able to discover, and then, having discovered, to disclose to us through the medium of the B.B.J. this "mixture of American invention," I will thank you in anticipation of a "consummation so devoutly to be wished."—E. DAVENPORT, *First-Class Expert and Hon. Sec. Worcestershire Bee-Keepers' Association.*

COMPULSORY POWERS.

A BEE-MAN'S OPINION.

[2186.] I am much interested in the question now being dealt with in the BRITISH BEE JOURNAL, and should like to tell you what I know of foul brood in this district (South Hants). I am sorry to say it is not

unknown by any means, or, rather, it has been known in past years and made itself felt in more cases than one. I started bee-keeping some ten years since, and was very fortunate with regard to keeping clear of the disease until about three years ago, when there seemed to be something the matter with my bees. On examining the hives I was astonished and alarmed to find some of my very best stocks ruined. This was the summer of 1892, and you may remember I asked advice from you which was kindly given. That year I lost six of my best lots, but I experimented on two of the lots before destroying them, as follows :—After burning all combs containing dead brood, I put five of the outside combs into an empty hive and fumigated well with sulphur burnt under them in good quantity; then placing the hive, not on the old stand, but halfway between the two, I united the bees of both lots, saving the youngest queen. I examined them again about fourteen days after, and found splendid patches of healthy brood; they went through the next summer, and gave me a little surplus honey, but for some reason the bees never thoroughly recovered, though they did not die of foul brood. I might as well, therefore, have destroyed them with the rest, but I gained experience. I am glad to be able now to tell you that although I have about thirty stocks, all in bar-frame hives, I don't think there is foul-broody comb in the apiary. In this district there are a good many people who keep a few skeps, and I have the bees for the trouble of driving and taking the honey for them, and I can truthfully say I have not seen a sign of the disease for the last two seasons. I believe it is only under certain conditions that foul brood gets a hold on stocks. It did not follow that because some of mine were affected that it would go through the apiary, but I think that once a stock has the disease it is best to put an end to it, instead of tampering with it, trying to cure.

With regard to "compulsory powers," I think it is rather an uncertain piece of business, but so far as I am concerned I should be quite willing for an efficient expert to come and look at all mine, even though he condemned all that were diseased. But if once a thing gets into the hands of the "powers that be," the question is how far will they carry that power? Everything in the bee line should be attended to by thoroughly practical men, and everything directed and ruled by such men. Bees are very different to pigs, and I consider it requires more care and thought for a man to come and overhaul an apiary than to overhaul a pigsty. Bearing this in mind, I should have a very strong objection to any one touching my bees, unless I gave them the liberty to do so. I never touch them myself unless absolutely necessary, because I believe that too much handling and overhauling has a tendency to spread disease more than stop it. I should, however, be very pleased to do anything in my power in helping to stamp out the evil, and very sorry to say anything against what our leading bee-men believe to be the right course in endeavouring to check the same. I wish the committee of the B.B.K.A. and yourselves every success in what you hope to do, and wish all bee-keepers a prosperous New Year. We had a heavy fall of snow here on the night of the 6th, and to-day (7th) was obliged to shade all entrances, the sun being rather warm.—OWEN BROWNING, *King Somborne, Hants, January 7.*

THE FOUL-BROOD CRUSADE.

DISCORDANT NOTES.

[2187.] Now that our banner is aloft and British bee-keepers are marshalled in full war-paint to crush out foul brood by means of "compulsory powers," it is a bit discouraging to hear from the "front" such discordant sounds as reach us in "A Briton's" letter (2169, p. 13). Another harsh note sounds on p. 18 (2178), but I judged this to emanate either from one who lacked experience of the enemy, or else has suffered from a too intimate acquaintance therewith. Surely, however, no bee association, or responsible members of one, have indulged in such an unwholesome luxury (?) without desiring anything short of its extermination? If they have, and the crusade fails through any such crass imbecility, they have laid the groundwork of their own ruin as bee-keepers. To my mind it is clear that, unless something is done, and that soon, bee associations and bee-keepers worth the name will be matters of history only before many years have passed; while the craft as we wish to see it—*i.e.*, flourishing and advancing—will be a dream of the past.

Never was a great cause won without opposition, nor will the one we have engaged in be won without combined effort, and it is eminently satisfactory to find that bee-keepers as a body are so nearly unanimous on this question; for every right-thinking man among us agrees that no half measures are of any use in coping with foul brood in the virulent form it has now assumed in many counties. No one can judge the extent of the trouble in some districts but those who *have seen it*—and I am one of them—and we are surely entitled to have some little weight attached to what we say.

To my mind we must look below the surface, and while fairly taking into consideration some immediate disadvantages, and perhaps small pecuniary loss, should well weigh the ultimate benefit to all if bee-pest can be got rid of. For this reason I think every one interested should lend a helping hand in advancing the object in view, and assisting the B.B.K.A. to obtain the powers by means of which the craft will be placed on a firmer and better basis than heretofore.

Mr. A. D. Woodley, on p. 17, talks as if everthing depended on compensation. Com-

pensation for what? Surely not for the misfortune of being afflicted with a contagious disease, even among one's bees. It appears to me the boot, in such a case, is put on the wrong foot. Let bee-keepers rally to the "British" standard, and render help, in the way they have been asked, to the Committee of the B.B.K.A., and, unless I am much mistaken, the benefits to accrue will more than compensate for slight temporary loss, should such occur. For myself, I am quite sure that our interests will be looked after by the committee of the central association, of which, I am pleased to say, I am a member, though not a committeeman. I enclose name, &c., but beg to subscribe myself —"A LITTLE HEALTHY BEE."

COMPULSORY POWERS.

[2188.] I have been reading with much interest the several articles in your issues of January 3 and January 10, *re* the compulsory powers for the suppression of foul-brood, and wish you every success in your campaign against this arch-enemy of all bee-keepers; and it has only been pressure of business that has prevented me endeavouring to push my mite in the good cause. Your correspondent [2157, page 3] is evidently one of those very bee-keepers who cannot see that the powers sought for by the B.B.K.A. will be of great and lasting benefit to the thousands of hard-working bee-keepers. Where is the hardship in having a badly-diseased hive or hives of bees destroyed and the hives properly disinfected? The bees would never do any good, or be of any profit to their owner, for in nearly all cases it is the weak hives that contract the most virulent form of it. How would your correspondent like to have his bees one side of a wall and know that there was a badly-diseased hive on the other, which was my case some two years since. His tone of writing would be altered very quickly, if his neighbour would not let him destroy it. If the B.B.K.A. only succeed in their self-imposed task they will earn the gratitude of all truly interested in the development of the industry. Inspectors will be found who will gently but fearlessly do their duty, and if we all stamp *hard* and stamp *together* the foul-brood bacillus will soon be a *rara avis* here, for it *can* be stamped out by energetic measures, not half-hearted ones. A liberal use of the rhyme, "If at first you don't succeed, Try, try, try again," will have to be advised, and success will come at last. My neighbour mentioned above allowed me to conduct the funeral of that badly-diseased hive, and this year he took 120 lb. from his three hives left on the same stand; a good record for hereabouts this year. If the British B.K.A., when granting experts certificates, made it a rule that all cases of disease should be notified to them in forty-eight hours they would get information enough to direct operations against the foe. Taking the bee-keepers in England and Scotland as a body, I do not think they have any idea of the number of infected districts and how the disease is spreading. Here, in Lincolnshire, a few years ago I knew of but one case, and that in a town near where lived a correspondent, who wrote to the B.B.J. thanking his stars it was not in the county, when it was only about three miles away from his own apiary, but now from top to bottom of the county our association experts report nearly a dozen centres of disease. I have often wondered that the British B.K.A. do not publish a list of infected areas in the B.B.J., but there seems a squeamishness amongst bee-keepers in this respect, and f.b. is always mentioned with bated breath; whereas knowledge of what districts were infected would prevent many bee-keepers importing the disease into their apiaries; and if we do get "compulsory powers" the Board of Agriculture will surely proclaim the districts the same as with other diseases, and where so suitable a medium to warn bee-keepers as the B.B.J. and the *Record*. Let all our B.K. associations strengthen the hands of the British in this matter till it does succeed in its effort to give bee-keeping a recognised position as one of the industries with State protection.—F. J. CRIBB, *Expert, Lincolnshire Bee-Keepers' Association.*

NOTES ON WHAT I KNOW,

AND ON WHAT I WANT TO KNOW.

[2189.] The late open weather has caused an increased consumption of stores, but, thanks to the new year, colder weather has come, and the activity manifested has ceased. Bees are now in winter-quarters, but they come out at a lower temperature after than they do before Christmas, so every warm day they will take cleansing flights. Naturally, with the new year, we begin to prepare for our spring work, and the sooner we have all in order the better. It is time to make calculations as to our season's demands, for sections, frames, foundation, and extra hives for increase of stock. Orders should be given early, and discount obtained before the manufacturers begin to feel the pressure of harvest requirements. These thoughts naturally draw our minds to current and past topics discussed in our journal, and of those asked, I, for one, wait for further information—for instance, "Blow's" remedy for foul brood. We put a great deal of faith in our Editors, and have no doubt that, in view of the prominence given just now to foul-brood curing, as soon as a discovery is made, which they believe will kill the spores and do the bees no injury, they will let us know of it. There is no one, so far as I have read, who has proved it a success and published the news in the BEE JOURNAL. I want to know, why?

So also Simmin's "plumping" system is a thing I would like to hear more of, yet no one rises up to testify what glorious results accrue

from its adoption. Has no one tried it? I tried a few strips of foundation on frames in middle of brood nest, but, as I anticipated, they were all filled up with drone brood, if the hives were full of bees.

There are also one or two things I want to say about honey for sale. It is a great mistake for vendors to bottle off into jars. Some buyers want 14 oz., others 16 oz., and I find it often leads to the lot being left on hand, whereas if it was put into 7, 14, 28, or 56 lb. tins, it could either be bottled to suit purchasers, or sold in bulk; and bee-keepers will, as a rule, find the latter method far more preferable, except for their own local demand. Again, the tins sold are not uniform, some sold to hold 28 lb. have had over 40 lb. put into them, others sold for 14 lb. would only hold 12 lb. There is a great demand for honey in tins of uniform sizes, and our manufacturers should see that their tin goods are of the size they sell them for.

I see you have plenty of New Year's good wishes, and I add mine to you and the bee fraternity.—GEO. STOCKS, *Sandiway, Northwich, January* 8.

FOUL-BROOD REMEDIES.

[2190.] Your correspondent, who in his last letter (2174, p. 16) adopts my improved *nom de plume*, like most anonymous writers, is apparently much aggrieved at an expression of opinion which differs from his own; but his specious argument as to the selfishness of a possessor of a remedy who "vends that remedy for private gain," however well it might work in Utopia, is hardly practicable in the present condition of life. If a man spends his energies on perfecting an invention, he is assuredly entitled to reap the advantages that may accrue from his success? Nay, more than this, if he has others depending on him, and has to work for a living, it is his positive duty to make the best bargain he can for himself and for them. Suppose he fails in his efforts, who will compensate him for lost time? If he succeeds, why should he not profit by his labour? If the patent laws are to be abolished—for that is the logical outcome of "A Big Goose's" argument—improvements and progress will be greatly delayed, for the chief incentive to invention will be removed.

As pointed out in my last, it is to private enterprise, and not to State intervention, that we owe nearly every advance made in all conditions of life, as well as in matters apicultural. State interference with the freedom of the individual has rarely produced the results anticipated by its supporters, as, for example, when typhoid-fever and diphtheria were diffused by a State-ordered system of drainage in Edinboro'.

On the very significant remark made by Mr. H. T. Spice (2178, p. 18) in this week's JOURNAL—"I suppose no one will deny that there is a "con" as well as a "pro" as to the *efficacy* of compulsory powers"—our "patient and long-suffering Editors make no comment; and I would beg bee-keepers to bear this in mind, and to reflect on what may be the ultimate issue of this seemingly simple step which is contemplated: for, remember, he cannot act on one aspect of the case without affecting it more or less in all its other phases.

When "A Big Goose" asks if I am in favour of the spread of glanders, rinderpest, rabies, &c., he might as well inquire if I were in favour of battle, murder, and sudden death! but I am tempted to ask him if he can conscientiously affirm that by Governmental interference these diseases he has named have been eradicated? If not, why should he expect any more favourable result from a similar interference on behalf of foul brood?—E. H. HOPKINS, *Green Hill, near Bromsgrove, January* 12, 1895.

ASSOCIATION HONEY LABELS.

[2191.] I am very pleased to see more letters in the B. B. J. on this subject. The somewhat disconsolate tone of the writers is most excellent testimony to the value of the label scheme. Only three days ago I called on a B.K.A. secretary who had just received an order from a persevering member for 1,000 Association labels. In the bee-keeper's letter there was the following remark:—"I don't quite see, though, what good they will be to me if Association labels are used on such honey as I saw labelled in a shop window in ——." What was the prompt answer of the secretary? "*Please buy a jar for me!*" The sequel to follow!—A CONSTANT READER.

STARTING BEE ASSOCIATIONS.

HELP WANTED IN SUSSEX.

[2192.] I have been a reader of your valuable little journal now for upwards of six months, and greatly interested in it. One thing that especially interested me of late was the subject referred to by "Kent Bee-Keeper" in B.B.J., November 29 (2122), for, as a young beginner in the business, I naturally feel that an association for Sussex would be a great boon. It is, I am sure, only expressing the views of many others besides myself, in fully endorsing the remarks of "Kent Bee-Keeper" about starting an association in Sussex; and there is no doubt that bee-keepers in the county would be very glad to know that there was a likelihood of us having an association established among us.

Who will make a start? There are a good number of bee-keepers around this neighbourhood, which is not far from Hastings. Surely there must be some one in or near that town who would take the matter up? Now that we are beset by that dread foe, foul brood, we certainly ought to try and combine for the general good of all lovers of bees, and there

seems, to my mind, no better way than to form a county association. I trust that some one else will give us a little help on the way by stating their opinion. — H. SCREES, *Pett, Sussex.*

WAX EXTRACTING.

[2193.] For the last twelve months I have been patiently waiting to see "Buzzing's" report anent his method of extracting wax. In his letter, 1678, p. 507, Vol. 21., he somewhat condemns my plan, as described on p. 347 (1537), Vol. 21. Whether my mode is a good one or not I leave others to determine, but I find it very satisfactory; and if "Buzzing" will please turn to p. 373, Vol. 22, he will there see that I took the first prize for beeswax at the annual show of the Worcestershire B.K.A.—PERCY LEIGH, *Beemount, Stoke Prior, Worcestershire.*

UNITING BEES.

[2194] The plan mentioned by Dr. Miller can be successfully carried out if done according to his directions. I united two lots together in two different cases without any hitch whatever. Years ago I have placed a sheet of perforated zinc between two stocks for a day or two, and then, after taking it off, have placed frames side by side, and all was pleasant going after that. — JOHN WALTON, *Weston, Leamington.*

Queries and Replies.

[1226.] "*Uniting*" *and Queenlessness.*—Will you please to give me your advice on the following? Last October we—myself and friend—united some driven bees to a stock to strengthen up for wintering. We found both queens, and decided which one we would allow to head the colony. My friend secured the queen not wanted, and made two steps to get the cage for her, when she slipped from his fingers. We searched all over, but failed to find her, and my friend (an old bee-keeper and third-class expert) said she might have got back into the hive, and if so would be thrown out in about three days. I kept a good watch, but no queen was thrown out. This was in October. On December 19—a cold day—I found a queen outside the hive. I picked her up, and said to myself "dead as a door-nail." I put her on my cool greenhouse stage, being obliged to hasten away to business. On returning in the evening I brought her indoors for examination, and though she had apparently never moved in the greenhouse (being on her back), in less than half an hour she showed signs of life, and in a short time was able to crawl about. This she did for two hours before finally dying. I may be mistaken; but, as far as my judgment goes, this is not the queen we left in the hive. I want to ask you:—1. Is it at all likely that two queens could be in this hive from October 8 to December 19? 2. How must I proceed to find out if I have a queen or no in this hive? If the hive is queenless it upsets my plan for next season, as I have only four stocks, and meant to double into two for the honey-time. 3. If I buy a queen, can the stock be worked up to be available for this season for doubling? — WM. CARR, *Blackburn, January 9.*

REPLY.—1. Under the circumstances it is quite possible the queen thrown is the one which escaped after uniting. 2. Nothing less than examining the comb for brood, so soon as the weather is warm enough, will decide whether the stock is queenless or not. 3. If a prolific queen can be secured early in the season there need be no difficulty in working the stock up to full strength by the time the honey season opens in Lancashire.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

MR. G. WELLS writes expressing regret that press of business prevents him from answering several inquiries which have been addressed to him through the B.J. He will, however, take an opportunity of doing so in an early number.

T. L. (Wigtown, N.B.).—*Distance Apart for Hives.*—1. Where there is room, 6 ft. to 8 ft. is near enough for hives to stand to each other. 2. The main mischief arising from hives being too close together is that queens are apt to mistake their hives on returning from their mating flights.

KENELM GOSS (Langland). — *Transferring Bees.*—Full instructions for transferring are given on pp. 139-140 of "Guide Book" (13th ed.). To be successfully done, however, the proper season must be chosen for the operation; nor should it be forgotten that unless the combs in skep are not over one year old and in good condition they are not worth transferring to a frame-hive at all.

S. DICKINSON (Slough). — *Dimensions of Shallow-frame.—Experts' Certificates.*—The dimensions of the shallow-frame are exactly those of the "Standard," less 3 in. in depth, viz., 14 in. by 5½ in., with 17 in. top-bar. Apply to the secretary of the B.B.K.A., Mr. J. Huckle, King's Langley, Herts., who will furnish particulars regarding experts' certificates.

Editorial, Notices, &c.

TO OUR CORRESPONDENTS.

The very considerable number of our pages which have, for several weeks past, been taken up in ventilating the question of compulsory powers for dealing with foul brood, forces upon us the necessity for curtailing the correspondence regarding it. Signs are not wanting in private letters which reach us, that the subject is becoming tiresome to a good many, especially as many of the later communications partake of the character of lengthy discussions between individuals. This is particularly the case with a number of letters before us as we write, and we are perforce compelled to say that our space is too limited for such. Our correspondents must also pardon us for saying that we can see no possible outcome of good to bee-keeping in discussing such subjects as "the fitness of the present law for dealing with infectious diseases," or the far more personally interesting question, "If Inspectors be appointed, who is to pay their salaries?" however sincerely it is to be hoped that we bee-keepers will not be "let in" for it.

The above remarks also apply to what may appropriately be called the "Goose" letters, lately appearing in our pages, which seem to increase in number and length as time goes on. We have on our "file" just now communications headed or signed "A Big Goose," "Another Big Goose," "A Little Goose," "A Big Gander," and "Another Quack." In some of these the tendency to personality largely predominates over what can be classed as either useful or interesting to the general reader. Moreover, if this sort of thing were allowed to go on, there would be some risk of the B.B.J. being included among the poultry journals of the country, to say nothing of the bee-keepers being counted among "the geese."

Seriously, however, we thank our several correspondents for the expression of their views as contained in letters sent; the salient points in them will be carefully noted, and the whole laid before the committee of the B.B.K.A. appointed to deal with the subject, and such suggestions as are of value will, no doubt, be thankfully adopted wherever possible. In the meantime we this week substitute several articles already in type and patiently waiting insertion. Bearing in mind also our "Index for 1895," we may be pardoned for suggesting that such undesirable headings to letters as are referred to above may in the future be dispensed with.

BRITISH BEE-KEEPERS' ASSOCIATION.

Nominations of members of the association for election on the committee for the year 1895, must be made not later than Thursday, January 31; forms for such nominations may be obtained upon application to the secretary.

The annual general meeting of the members of the association will be held at 105, Jermyn-street, S.W., on Thursday, February 21, at 3.30 p.m., the Baroness Burdett-Coutts, president of the association, in the chair.

Notice of motions for this meeting must be received by the secretary not later than February 7.

A conversazione will be held after the close of the general meeting. Members desirous of introducing subjects for discussion, or submitting new and improved appliances, are requested to communicate with the secretary as early as possible.

The prize list for bees, hives and honey, offered for competition at the Royal Agricultural Show, to be held at Darlington, in June next, are now ready.

The secretary will be glad to receive subscriptions for the current year, which became due on January 1.—JOHN HUCKLE, Secretary, *King's Langley, January* 21, 1895.

KENT BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING, 1895.

The annual meeting of this Association was held on Wednesday, January 18, at the Pump Room, Tunbridge Wells, the Rev. T. S. Curteis occupying the chair. There was a numerous attendance of members, and it was evident that the locality chosen for the meeting was a good one.

The report of the council contained numerous topics of interest, especially those referring to foul-brood, and the foreshadowing of the annual exhibition in the coming summer. Other matters, such as the co-operation of the Kent County Council in the work of extending bee-keeping, the production and issuing of the Association honey label, and the Canterbury Show during the past summer were dealt with; while the financial statement inspired hope that the task of management in the future might be lightened.

The thanks of the meeting were most cordially given to the council and officers, whose services were fully recognised.

The drawing of prizes—viz., a bar frame

hive and supering racks—was duly performed, two ladies kindly undertaking the task, and resulted in favour of Louis Curtis (Seal), who gained the hive, and C. Woolgar (Etchingham), Geo. Banner (Minster, Sheppy), H. Munson (also of Minster), and G. Bowers (Betteshanger), who each receive a "W.B.C." supering rack.

A cordial vote of thanks to the chairman for his conduct in the chair brought the proceedings to a close.

Subsequently to the meeting a short adjournment occurred for tea, after which a conference, which had been previously announced, between Kent and Sussex bee-keepers, was held, the object being to initiate a movement for establishing a bee-keepers' association for Sussex.

A resolution expressing the desirableness of such a step was unanimously agreed upon and Mr. Garratt, hon. sec. of the Kent B.K. Association, was requested to receive names of all those who were prepared to give it their aid.

Mr. G. W. Hole, of Patcham, was in attendance and exhibited his "Swarm Catcher" and gave explanations concerning it.

Mr. H. W. Brice also exhibited his most interesting specimens connected with the advanced method of queen rearing. A sample of fine honey of 1882 was exhibited, thirteen years old, the flavour and aroma were declared by several beekeepers to be perfect.

At seven o'clock Mr. W. H. Harris, B.Sc., a member of the committee of the B.B.K.A., delivered an exceedingly interesting lecture on "Bees and Bee-keeping." The audience was both numerous and thoroughly appreciative.

NORTHAMPTON BEE-KEEPERS' ASSOCIATION.

The 12th annual meeting of the N.B.K.A. was held on Saturday, January 12, in All Saints' Schools, Northampton. Mr. A. L. Y. Morley presided over a good attendance of members. Letters of apology for absence were received from several members. After the minutes of the last meeting had been read and confirmed, the chairman called on the secretary to read the report for the past year, which referred to the season of '94 as a disappointing one for bee-keepers, notwithstanding which a fairly good show of honey was staged at the annual show. In connection with the County Council grant, lectures on bee-keeping have been delivered by Messrs. Truss, Perry, and Adams respectively, at a number of villages within the county, besides outdoor demonstrations under the same auspices at several agricultural shows. Lectures and demonstrations alike were well attended, and aroused an amount of interest which will, no doubt, lead to the permanent benefit of the association and the community at large. The report went on to express the pleasure it afforded the committee to state that the association is in a fairly prosperous condition, though its usefulness is limited through lack of funds. An appeal is, therefore, made for additional subscribers.

The balance-sheet showed receipts (including £25 from the County Council) amounting to £62. 15s. 2d., with an expenditure of £49. 4s. 7d., leaving a credit balance of £13. 10s. 7d. Of this sum upwards of £5 will be required to meet the cost of lectures already arranged for to take place early this year. The report and balance-sheet as read were passed, after which the election of officers for the year 1895 took place. It was decided to invite J. L. Stratton, Esq., J.P., Turweston House, Brackley, to accept the office of president for the current year. The following gentlemen were appointed on the executive committee:—Mr. O. L. Y. Morley (chairman), Messrs. J. Francis, E. Ball, Manning, H. Collins, C. Cox, G. Page, O. Orland, J. R. Truss, T. E. Adams, J. Cox, and J. Phillips. Mr. R. Hefford was reappointed secretary, Mr. G. E. Atkins treasurer, and Mr. J. Francis auditor.

Considerable discussion took place as to the advisability of adopting a county honey label, but it was decided to adjourn the matter to a future meeting. The best thanks of the meeting were also given to the B.B.K.A. for the efforts they were making to eradicate foul brood, and it was hoped that compulsory powers, with fair compensation for destruction, would be obtained. Meeting closed with a vote of thanks to the chairman.

AMERICAN FOUL BROOD-ACT.

LANSING, MICH., February 3, 1881.

A Bill To prevent the spread of Foul Brood among bees, and to extirpate the same.

SECTION 1. *The People of the State of Michigan enact*, That it shall be unlawful for any person to keep in his apiary any colony of bees affected with the contagious malady known as foul brood; and it shall be the duty of every bee-keeper, as soon as he becomes aware of the existence of said disease among his bees, to forthwith destroy or cause to be destroyed all colonies thus affected.

SEC. 2. In any county in this State in which foul brood exists, or in which there are good reasons to believe it exists, it shall be lawful for any five or more actual bee-keepers of said county to set forth such fact, belief, or apprehension in a petition addressed to the judge of probate, requiring him to appoint a competent commissioner to prevent the spread of said disease and to eradicate the same; which petition shall be filed with and become a part of the records of the court where such application is made.

SEC. 3. It shall be the duty of the judge of probate, on receipt of the petition specified in section 2 of this Act, to appoint within ten days thereafter a well-known and competent bee-keeper of said county, as a commissioner,

who shall hold his office during the pleasure of said court; and a record of such order of appointment, and revocation, when revoked, shall be filed as a part of the records of said court.

SEC. 4. It shall be the duty of said commissioner, within ten days of his appointment as aforesaid, to file his acceptance of the same with the court from whom he received his appointment.

SEC. 5. Upon complaint of any two bee-keepers of said county in writing and on oath to said commissioner, setting forth that said disease exists, or that they have good reason to believe it exists within said county, designating the apiary or apiaries wherein they believe it to be, it shall become the duty of the commissioner, to whom such complaint is delivered, to proceed without unnecessary delay to examine the bees so designated, and if he shall become satisfied that any colony or colonies of said bees are diseased with foul brood, he shall without further disturbance to said bees, fix some distinguishing mark upon each hive wherein exists said foul brood, and immediately notify the person to whom said bees belong, personally or by leaving a written notice at his place of residence, if he be a resident of such county, and if such owner be a non-resident of such county, then by leaving the same with the person having in charge such bees, requiring said person, within five days, Sundays excepted, from the date of said notice, to effectually remove or destroy said hives, together with their entire contents, by burying them or by fire.

SEC. 6. If any person [neglects to destroy or cause to be destroyed said hives and their contents in the manner as described in section 5, after due notification, he shall be deemed guilty of a misdemeanour, and punished by a fine not to exceed 50 dollars for the first offence, and for each additional offence he shall be liable to a fine not to exceed 100 dollars, at the discretion of the court; and any justice of the peace of the township where said bees exist shall have jurisdiction thereof.

SEC. 7. The commissioner shall be allowed for services under this Act, 2 dollars for each full day, and 1 dollar for each half-day, the account to be audited by the board of supervisors.

SEC. 8. In all suits and prosecutions under this Act, it shall be necessary to prove that said bees were actually diseased or infected with foul brood.

DIALYSIS OF HONEY.

A firm of analytical and consulting chemists write as follows concerning the dialysis of honey, and, deeming the matter to be of general interest, we print below the letter and our replies to the several questions put:—

DEAR SIRS,—We have been making an examination of honey, according to Dr. Haenle's method as described by you in the BEE JOURNAL of October 25, 1894.

About some of the points we are in doubt, and so your answers to the enclosed queries will very much oblige.

If we can at any time reciprocate your anticipated goodness we shall only too glad to do so.—Yours, &c., MCCOWAN & BIGGART, *Greenock, December* 29.

Queries.

1. Are the degrees to which you refer sugar or circular degrees?

2. Was your polarising tube a 200 millemetre tube? If not, what was its length?

3. You put the average normal polarisation of honey at —30. Is this the polarisation of an undiluted honey, or is it rather the polarisation of a 50 per cent. solution?

4. In your paper you say, "The sample is placed on the dialyser as shown, water being allowed to flow so that the parchment is depressed." What do these remarks mean exactly?

Answers.

1. Sugar degrees, as we use a Soleil-Duboscq polariscope.

2. Yes, 200 millimètres long.

3. In every case the honey diluted 2 to 1, so that it is a 50 per cent. solution. Normal honey, 30, + or —, according as to whether it is flower or pine (conifer) honey.

4. This you will hardly understand without seeing the special dialyser used. If you understand German, we will send you a paper containing an illustration of the dialyser, which would enable you to make one.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C." (see 1st page of advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

"COUNTY ASSOCIATIONS AND EXPERTS' VISITS."

[2195.] I notice there is some correspondence of late in your columns on the above subject, finding fault with the way this part of association work is carried on. Now, as one who has had a good deal to do with the working of one of our largest county associations

for several years, I ask for a little space in your paper to say a word on the other side, *i.e.*, the executive's.

The complaint is that many members do not receive the expert's visit, for which they join the association. In my own association, one of the rules—a copy of which is sent to every member of the association in the annual report—is that "all subscriptions shall be payable in advance, and shall become due on the day of the annual meeting (held in February) in each year, and until such subscription be paid no member shall be entitled to the privileges of the association."

On April 1, out of a list of 351 members thirty-eight only had sent in their subscriptions. In addition to a copy of the report containing this rule, a circular was sent out, in it asking those members who wished for the services of the expert to send a post-card to the secretary as early as possible. I do not think there was a single response to this circular? Nearly 200 of our members take the RECORD through the association, in the January number of which an insert was added notifying to members that acceptance of the RECORD would signify their wish to continue membership, and have the paper sent during the year. This was put in owing to the heavy loss the association had been put to by people accepting RECORDS during the year and refusing to pay their subscriptions. In spite of this insert, sixteen members who have accepted RECORDS have not yet taken any notice of the two circulars asking for their 1894 subscriptions. These are a few of the troubles the executives of county associations have to put up with, which, considering the time and money many give to the work, is disheartening.

I maintain that if members would support the committee of their associations by following the rules, there would not be many cases of neglect of members.

The expert question is one of very great difficulty with us, owing to the scarcity of suitable men for the post. If we had several men in the county who would visit members at so much a head, the work might be done more satisfactorily and cheaper. I should like to see more candidates for the third-class certificate of the B.B.K.A., and hope more will come forward this year.—THOS. D. SCHOFIELD, *Alderley Edge, Cheshire, January* 4, 1895.

TREATMENT OF FOUL BROOD.

[2196.] In the summer of last year I explained at a quarterly meeting of the B.B.K.A., and in a letter to the journal, some experiments I had made with regard to the treatment of foul brood. Having continued these experiments through two seasons I am now in a position to give some further results.

While speaking, however, upon the subject of "treatment" let me preface my remarks by an expression of the strongest approval of those measures which are now being taken for the purpose of obtaining compulsory legislation in respect to this disease. In the interests of the industry there is no doubt that it is urgently required. This we must have before effectual steps can be taken to stay the plague. While heartily concurring then with the efforts now being made in this direction, I at the same time feel very strongly the necessity that exists for more effective measures of treatment than any we yet possess, to go hand in hand with our Act of Parliament.

All who have experience in the disease know that stocks are to be found in all stages of infection, from those but slightly tainted to ones possessing combs which exhibit only a mass of corruption. Where the stock is seriously diseased, I would be among the first to advocate immediate, and, if necessary, compulsory destruction. Treatment in such cases must be worse than folly. But what of those numerous cases where but slight symptoms of the disease exist? No one, I suppose, contemplates compulsory destruction of these. It is here, then, that the necessity for really effective treatment arises.

It seems to me that, even in the mildest case, it is hopeless to rely upon measures which are little more than simply preventive. However slight the taint of the disease may be, before long spores will inevitably be present; and is there any reasonable expectation of immunity from the disease so long as these spores remain undestroyed? If by any practicable method all spores in the hive could be forced to germinate, the milder remedies in vogue might be reasonably relied upon. But this is not possible, and, therefore, it seems to me that experiment should be made in the direction of some practicable mode of reaching the spores.

When describing my own experiment last year I explained that the object I had before me was to ascertain whether it was possible to employ a more effectual remedy than those hitherto used, and which aimed simply at arresting the development of the bacillus. The difficulty, of course, which at once presents itself, is that of discovering a mode of application which shall not at the same time prove destructive to the bees themselves. My experiments therefore, after finding a suitable agent, were directed to the solution of this problem.

A letter from me, explaining the object I had in view, appeared in the BRITISH BEE JOURNAL for June 15, 1893. I may here repeat that I had at that date two stocks, which, notwithstanding a course of bromine treatment, were then alive and strong. And not only alive, but *healthy*, although, in the autumn before, badly diseased. Whether or no this was due to the bromine, I agree (though satisfied in my own mind) must remain to be tested by further experiment. The main point was that these stocks remained uninjured by the treatment, while the presumption was that

this treatment had destroyed the spores of the disease, since independent experiment showed that the spores could easily be destroyed by means of bromine, applied in a similar manner.

As I have since subjected the treatment to further test, I am in a position to summarise the results as follows :—

During 1892 and 1893 I treated fifteen diseased stocks. One of these succumbed during experiment as to regulation and strength of dose. One weak stock I subsequently destroyed. Of the remaining thirteen I found this summer (1894) that nine were free from disease. Of the remaining four, three showed only slight traces of disease, while one was still badly affected.

It seems to me that these are fairly satisfactory results ; for, though complete success has not been achieved, I at any rate think that something has been proved in the right direction, and at the same time cannot help feeling tolerably confident that, through the means adopted, I have practically rescued my own apiary from threatened destruction.

Where success has been incomplete I feel it to have been due to the difficulties attending effectual application of the means. In the agent itself I have implicit faith, and I cannot but think that further experiment will open the way for more satisfactory methods of application.—Gerard W. Bancks, *Green-street Green, Dartford, December* 21.

SHALLOW-FRAMES FOR EXTRACTING :

ARE THEY ADVANTAGEOUS OVER STANDARD SIZE ?

[2197.] There are two or three questions on which I should like to elicit an expression of opinion from some of your readers who are well versed in apicultural matters. I have been a bee-keeper for several years, and a constant reader of your Journal, but do not remember to have seen the "pros" and "cons" of the following questions fairly set over against each other. 1. In the first place, have shallow-frames a decided advantage over those of standard size for extracting purposes ? I notice that one of the largest dealers in appliances states in his catalogue that they have not. So far I have not tried them, but have always used standard frames for extracting. 2. Do the advantages of thick combs, secured by use of the new wide metal ends, more than counterbalance the disadvantage of more brace-combs ? I understand that there is more trouble with these when working for thick combs. All other things being equal, can more honey be secured with the same labour by using the new wide ends ? 3. Is it better to have the inner case of an extracting super separate from the outer one, so that they can be lifted off independently of each other ?

As I am wanting about forty new extracting supers, with frames, &c., you will see that the above questions are of some importance to me ; and as now is the time to prepare for the coming season, it is possible that a little discussion on these matters will be profitable to other of your readers as well as to myself.—Agricola, *East Yorks, January* 18, 1895.

[Our correspondent might, with some advantage to himself, refer to the letter of a well-known bee-keeper in his own county of Yorks (2171, p. 14) and (2198) below.—Eds.]

THICK COMBS IN SHALLOW-FRAMES.

[2198.] In your issue of January 10 (2171, p. 14) I see a letter about thick combs in shallow-frames, and I entirely agree with your correspondent. Previous to the season of '94 I used in my supers two 2-lb. sections suspended in a shallow-frame. In the spring of '94 I got some spare brood-frames altered and cut down, so that they would either hold two 2-lb. sections, a full sheet of foundation, or two smaller half sheets of foundation. These frames were put into the crates as they came to my hand, pretty much alternately. The result was that the frames holding full sheets of foundation, or the half-sheets, were *sooner* and *better* filled, and weighed about 1 lb. heavier than the two 2-lb. sections, and, after being cut out and wrapped in paper, were found to keep their flavour better than the sections. I fear, however, that honey packed and sold in this way would not sell so well as in the 1-lb. sections. The latter, neatly protected with glass, will probably sell better than any honeycombs wrapped in clean white paper, and some box or strong package would be necessary to send it by rail with safety ; but there is far less trouble in preparing the supers by this process.—With best wishes of the season, I am, sirs, F. McC, *Blackyett, Kirtlebridge, N.B.*

SUNDRY BEE NOTES.

[2199] *Driving Bees from Skeps.*—To drive skeps easily and quickly they should in no case be previously disturbed, but each skep should be suddenly taken up, as if taken by storm, and immediately driven. The bees cluster on the empty comb. When the skep is disturbed they move upward to the sealed honey ; but if the skep, on being taken up, is suddenly inverted and driven, the bees in this case move up into the empty skep placed above. A skep "taken by storm" can be driven in about four minutes, whereas, when the bees have had previous warning to leave, the same operation may require half an hour, and the work even then be badly done.

Rendering and Purifying Wax.—I have lately tried rendering wax from cappings, and also from old combs, on the simple plan re-

commended by Mr. C. Dadant. This plan answers very well for cappings, which yield but little refuse on the surface of the water in the boiler; but for old combs, which give a large amount of refuse, it is an extremely slow process, and it leaves a large amount of wax with the refuse. So, instead of using the wire-cloth dipper, lowering it into the boiler, and removing the wax which strains into it with a ladle, as recommended by Mr. Dadant, I find a better plan for old combs is to discard the wire-cloth dipper, and take up the melted refuse itself with the ladle, and pour it by ladlefuls into a potato-masher or small press, held or secured above the dish or pan placed to receive the wax. Each time the masher is filled, press the contents until the wax ceases to run out freely, when the residue can be emptied out, and will then be found to retain very little wax. A large quantity of old combs can thus be placed in the hot water of the boiler to start with, and the hot refuse, after being well stirred, is then dipped up, pressed over the side-dish or pan, and in this way removed from the boiler as the work proceeds, expediting the work, while it gives a large amount of fine wax, much of which, from old combs, could not be had without using the press.

The next process is to purify the wax. For this purpose the cakes when cold are removed from the pans, washed in cold water, and the greater portion of the sediment formed on the under sides is scraped off. The cakes are then broken up into pieces, and placed into a tall vessel, larger at the top than at the bottom, for the final melting. Several kinds of vessels are used for this purpose. I generally recommend the white pudding basins, found in almost every home, to those bee-keepers who own only two or three hives. Bee-keepers who, like myself, have a large amount of wax to purify, generally use special tin vessels, so made that when placed in the boiler the hot water will circulate freely under and around them, to prevent the under-part of the wax from burning while it is being kept melted for several hours to get it thoroughly purified. A better appliance, however, than the tin vessel named is a glazed earthenware pot — with lid and handle — called the "Gourmet Boiler" (Challis' patent). This pot, which also allows the water to circulate freely under it, is made in a great number of sizes, say from No. 1 to No. 20.

I have used No. 9, which gives a nice block of wax weighing 3½ lb. Bee-keepers should choose one of a size suitable for the saucepan or boiler in which they intend to use it. So that when the pot with its lid is placed in the boiler, it will allow the lid of the latter to be put in its place, to enclose the heat, while the melted wax is being purified ; and also to allow the wax to cool down more gradually when the boiler is removed from the stove. The best time to melt the wax to purify it is in the morning. It should be kept melted all day, and allowed to cool gradually during the night following. The block of wax will generally be sufficiently cold the next morning to permit removing the sediment from its under side to better advantage than when the block has got quite hard. I find that when the water in which the wax-pot is placed is kept at about the boiling point, the wax purifies better, and comes out of a lighter colour than when kept at a lower temperature.

Queens Piping.—A young queen has sometimes continued piping, undisturbed, while I held the frame of comb on which she was in my hands. The senior young queen, when piping, seems to announce to the colony several important facts. First and foremost she proclaims the presence of other virgin queens in the hive ; and, as if the future existence of the colony depended on her alone, she parades the comb and examines minutely the interior of each cell. In the bottom of one cell she finds a little honey, in the bottom of the next she finds pollen, a third and fourth cell have sealed brood, while the next cell she examines is empty and clean. Here she stops and signals the absence of eggs in the cells by piping. Each clean empty cell she meets draws forth from her that sharp, piercing cry which announces to the whole colony that those elements of reproduction—the eggs—are no more to be found in the combs. The "piping" of the senior young queen, therefore, appears to be a solemn warning to the bees that it is only by the advent of a fresh fertile queen in the hive, pursuing her maternal duties free from the dangers of the sudden loss of life by rivals or otherwise, that the colony can be saved from extinction.

Giving Artificial Pollen.—In localities where it is advantageous to give bees artificial pollen as a first stimulant to activity after their long winter's rest, there are a few particulars which require to be attended to, so as to secure good results. And it it may be by not complying with certain requirements, which should accompany the giving of artificial pollen, that it is thought to be unnecessary, whereas, if these requirements were complied with, it would prove very advantageous. To reap the greatest benefit the stocks should be nicely packed in the autumn with a good allowance of food for wintering, and the hives should be such that the bees in them will not be much affected by sudden changes of temperature. I consider it best to commence giving pea-flour about four weeks before the plentiful supply of natural pollen begins. The bees must be considered in winter quarters during the whole time they are working on the pea-flour. They should not be disturbed, and have no liquid food given them during that time. My bees, so managed, use an average of ½ lb. of pea-flour per colony each spring. Some stocks remain partly dormant, and use but a very small amount, but others appear to utilise considerably over 1 lb. weight. The

bees of stocks that are in proper order gather the pea-floor only during fine weather, and the hives remain perfectly quiet during bad weather, even if it lasts for several consecutive days. Thus, while food is being gradually transformed into young bees inside the hives, there is no loss of adult bees outside. It is only when the bees have left off working on the pea-flour, and that they are actively employed gathering natural pollen, that it is safe to examine the hives to give more room by adding frames where necessary. The bees, when once stimulated by the pea-flour, properly administered, will not afterwards require stimulative feeding with liquid syrup, and they will be more free from dysentery or pollen discharges.

Pea-flour Receptacles.—The receptacles in which pea-flour is placed on shavings or otherwise should be such as to admit of being easily cleaned after use. A good thing for the purpose is what I call the "artificial-pollen bell," in which a bunch of white hemp hangs, like the clapper in a bell, and extends a few inches below the rim, much after the style in which the stamens of the fuchsia hang down down below its corolla. The "bell" is suspended a few feet above the ground, and the bunch of hemp is charged by simply dipping it in a dish of pea-flour. It effectually keeps off the rain from the pea-flour, and when made of glass also admits the sun's rays, which are beneficial to the bees while these latter are engaged forming the pellets of artificial pollen.—PETER BOIS, *Jersey.*

(*Conclusion next week.*)

CLEARING BEES FROM FRAMES.

[2200.] I notice in your issue of October 25 last (p. 421) a discussion on the question of clearing bees from supers placed on hives for cleaning up. About fourteen years ago I adopted a plan, a very simple one, to get rid of the bees from combs. I take a sheet of thick brown paper and cut it into pieces, each about the same depth and width as the frames to be operated on. I then take a feather and wet with Calvert's No. 5 carbolic acid, and each piece of paper is then slightly touched with the acid. The carbolised paper is then placed between each of the frames of bees; the effect is instantaneous—a couple of minutes suffices to clear out the whole of the bees. There is little or no risk of the carbolised paper contaminating the combs, as the thick brown paper completely absorbs the acid, and to all appearance is quite dry.—JNO. HALL, *High Blantyre, January* 14.

PERFORATING ZINC FOR WELLS DUMMIES.

[2201] When I first began bee-keeping twenty-five years ago I recollect noticing a peculiar stench from one hive. As I never can endure anything unclean or unhealthy, I immediately cut out the diseased combs and buried them, and cleansed the hive, but did not destroy hive or bees. I probably used carbolic, as that was all "the go" at that time. I have never seen any foul brood since, and have always kept ten or fifteen hives going. I always dread purchasing old straw skeps with bees, and I think it most likely that I bought the disease and the experience. Notice I did *not* destroy the bees, and yet no harm ensued.

I consider the "Wells" hive a good thing, but in my opinion perforated zinc does quite as well as wood perforated; it is stiffened with zinc or tin; sold in V-shape at the zinc shops, and the whole thing is not ¼ in. thick.—F. V HADLOW, *Buxted, Sussex, January* 18.

[Referring to our correspondent's foul-brood experience, it can hardly be regarded as conclusive, though to notice a "stench" coming from a hive is suspicious enough. Unfortunately, however, we have had repeated cases brought to our notice where perfectly healthy hives have been suspected because of the "bad smell," *i.e.*, "stench," coming from them in spring, when black currant honey, (with its peculiar smell) was being gathered. Any way, we congratulate our correspondent on keeping his bees healthy for so long. It speaks volumes for the good which comes of hating "anything unclean or unhealthy."—EDS.]

SYSTEMATIC APICULTURE.

[2202.] In these days when technical education is making so great progress in almost every branch of science and art, it will not, I think, be out of place to make a few suggestions which I trust will be profitable to intending bee-keepers. Agriculture and apiculture are two branches of science which must ever go hand in hand for mutual good, since the fertilisation of flowers depends to such a great extent on external agencies. The rearing to the best advantage of insects which will, as it were, pay their way without encroaching on the profits of the increased fruit harvest, derived by their aid, ought to be a matter of weighty importance to every fruit-grower and agriculturist. Probably no other form of insect culture has been studied with so much care and to such a universal extent as has that of the honey-bee, yet its systematic and humane manipulation, has only taken place within a comparatively short time. This is not altogether to be surprised at, for in a great many branches of study, practical benefits have not always followed close on established theoretical fact. Now that County Councils are taking up the matter and intend to deal with it in an efficient manner, more intelligent working must be expected; but what I wish to point out is that the good derived from County Council effort is necessarily limited, and much need not be expected at first from such. The

greatest benefit is, however, to be derived from personal effort by general reading. One of the chief evils which has retarded the development of bee-culture in these later days, and one which old bee-keepers are not altogether free from, is that of allowing their actions to be prompted by the belief that their own personal experience is the only guide to knowledge. Well, this is a partial truth, which can only be applied to the actual handling of bees, but it is a great fallacy, and must be regarded as an exceedingly retrogressive notion when we deal with systematic reading. Because in this as in everything else, headway can only be made by building our new hypothesis on the experience of those who have experimented before us, and on facts deduced from corroborative observations. Want of theory is to a great extent the cause of failure in practice. This want can only be supplied by a study of the principles which control the actions of bees, derived from the various books, guides, and articles on the subject. A knowledge of the advantages and disadvantages of the chief types of hives in the market is also most desirable, since we are then in a position to choose the hive most suitable to our climate and district. This knowledge can never be expected to be got from magazines on the subject, which must necessarily be more for the information of the few than the primary education of the many, besides being meant to do other duty than that of text-books or elementary manuals. In expressing these views I do not for one moment suggest that practice and opportunity in the handling of bees should be neglected; but what I say is this, that the actions of every bee-keeper should be controlled by "the why and the wherefore," and that any move should be made, not for the purpose of simply seeing what will happen, but rather as the means to a definite end. My opinion is that, if what I have hinted at were carried out wherever possible, bee-keeping would no longer be the stowing a swarm of bees away in a box or skep, the robbing them in the autumn, and then leaving in, or giving barely sufficient food to keep them from starving in the winter and early spring, but it would be either a hobby or a means of livelihood, which would elevate the mind, and tend to raise its thoughts from nature up to nature's God.—JAS. KEITH, *Uddington.*

HONEY AS A CURE FOR CHILBLAINS.

[2203.] My sister and self have found a new use for honey as a cure for chilblains. On Sunday last my sister suffered terribly with chilblains on her left hand. It was so inflamed with the frost, she could not bend the fingers at all. And the back of the hand was quite puffed up. All sorts of remedies were tried, including the old-fashioned one thought so effective, "salt and turnip," but nothing seemed to give any ease; and at last we resolved to try honey—smeared the hand over thinly, then put on a linen rag and covered all with a handkerchief. The honey gave instant relief; two dressings taking all the inflammation out of the hand.

I was myself suffering with the same trouble in my feet; could not get my boots on at all, and my feet were quite discoloured with the chilblains which gave me fearful pain. I rubbed a little honey over my feet at night, and laid on this some fine linen, then drew over all a pair of bed socks; dressed them again next morning and put on a pair of large shoes, and in two days was able to wear my own boots again. Although some of my friends consider me "bee-mad," if any one had told me that honey gave the instant relief it did, I would not have believed it.—A LADY BEE-KEEPER, *Leeds, January* 18.

"THE WILFUL BEE."

[2204.] You quoted on p. 431, November 1 last, part of Mr. Gilbert's song of "The Wilful Bee." As you are, perhaps, aware, the song in the opera concludes as follows (these lines being omitted in your quotation):—

"The hive were shocked to see their chum
(A strict tee-to-tal-ler) tee-to-tum.
The queen exclaimed, 'How terrible very!
It's perfectly clear to all the throng
Peter's been at the old brown sherry,
Old brown sherry is far too strong.'
Buzz, buzz.

* * * * *

I must confess, Messrs. Editors—and I hope you will agree with me—that the allusion to old brown sherry appears somewhat inapt. I have discovered alcoholic beverages in the hive in the shape of fermented syrup, but never old brown sherry. I think it must have been this allusion preying upon my mind that suggested an "improvement" in the poem.

What do you think of the enclosed? If you have corners in the BEE JOURNAL for frivolities of this description pray help to fill them up with it.—NEMO, *January* 2, 1895.

P.S.—Happy New Year to you, and success to the "compulsory legislation" movement.

ANOTHER "SONG OF THE WILFUL BEE."

(WITH APOLOGIES TO MR. W. S. GILBERT.)

A hive of bees, 'tis said, one day
Addressed their queen, and thus spake they:—

"Please your majesty, all around
A dire complaint has seized the bees—
To follow the fashion we're surely bound,
And take ourselves the new disease."
Buzz, buzz, buzz, buzz.

Said her Majesty, "Granted the rumour is true,
Still it isn't a matter that rests with you;
Some tiptop authorities say that *I*
Am the one to infect my progeny."
Shu-u-a. Shu-u-a.

Her Majesty's eyes, by the thousand, glared,
And her sting from out of its sheath was bared,
Her Majesty's lip, too, began to pout;
In short, it was plain that the queen was put out.
Tu-tu-tu. Tu-tu-tu.
Her eyes they glared, and her sting was out.

That hive contained one cranky bee,
(I name her not) and thus spake she—
"Though every bee has shown white feather,
I have opinions of my own.
Why should we have it altogether?
I'll take the malady alone."
Buzz, buzz.
Backwards and forwards she wriggled about,
She first turned yellow and then turned brown,
In a long sticky string tried to pull herself out,
And in other particulars acted the clown,
Buzz, buzz.

Pitiful sight it was to see,
Middle-aged Anglo-German bee,
So sadly thus to folly prone,
Having the new complaint alone,
Buzz, buzz, buzz, buzz.
Leading the fashion all alone.

The hive were grieved to see their mate
Succumb to such a doleful fate.
The queen exclaimed, "'Tis a shocking scene,
It's perfectly clear to all the hive
We mustn't depend upon naphthaline,
But trustier measures at once contrive.
Buzz, buzz.

"Of all who thus themselves degrade
A stern example must be made.
To Parliament go, you tiresome bee,
We'll make your cure compulsoree.
Buzz, buzz.
"We'll have you scheduled with the swine,
With sickly sheep and seedy kine,
And you'll live to own in the sulphur flame
That folly and fashion are much the same."
Buzz, buzz, buzz.
In the sulphur-pit to the world proclaim,
That fashion and folly are much the same.

[We should have been very pleased to print Mr. Gilbert's quaint little lyric complete as written; the author's, "All rights reserved" injunction, however, very properly restrained our hand, as it does now, and we only insert the portion of the song's conclusion having direct reference to our correspondent's *motif* in the above happy and very opportune parody of the original.—Eds.]

IS BEESWAX A DRUG?

Mr. Denman was engaged a considerable time in hearing a summons against Day's Southern Drug Company, of High-street, Streatham, and elsewhere, for selling beeswax adulterated with 50 per cent. of paraffin wax. Mr. W. W. Young supported the summons, which was taken out under the Food and Drugs Act, on behalf of the prosecutors, the Wandsworth District Board, while Mr. Blanchard Wontner represented the defendants. Mr. Denman inquired if beeswax could be considered a drug. Mr. Young said the definition given by Webster was that beeswax was a drug used for medical purposes. Mr. Denman believed that the purchaser in this case was prejudiced in making the purchase, as he did not get what he asked for. He imposed a penalty of 40s. with £3. 3s. costs.—*Daily Telegraph.*

RAINFALL IN 1894.

SOLIHULL, NORTH WARWICKSHIRE.

Above Sea-Level 460 ft.

Month.	Total Depth.	Greatest fall in 24 Hours.		No. of Days on which ·01 or more fell.
	Inches.	Depth.	Date.	
Jan.	1·790	·26	30	23
Feb.	2·310	·78	17	18
March	1·210	·38	12	13
April	2·140	·475	11	15
May	2·535	·37	11	19
June	2·315	·69	4	16
July	3·235	1·07	24	22
Aug.	2·550	·54	25	24
Sept.	2·305	·935	25	13
Oct.	3·615	·77	26	22
Nov.	2·840	·90	12	18
Dec.	2·175	·36	11	20
Total	29·02	...	...	223

B. BOOTHROYD.

Queries and Replies.

[1227.] *Painting Bee-houses, Adding Combs, and Failure with "Wells" Hive.*—1. What time of year is the best for painting the outside of bee-houses? and what is the best paint to resist rain and keep the alight-boards clean and white? 2. When should new frames of brood-comb be inserted into the hives? 3. I tried working a hive on the "Wells" system last year, but failed. The two hives are in one box, with a division of wood. Above they were well covered with excluder zinc, and a frame containing sections placed upon that, so that bees of both hives could come up, but no dummy between. They fought so badly that two days after I shut the one hive off. One worked splendidly,

the other did nothing. What mistake did I make?—M. L.

REPLY.—1. Bee-houses may be painted at almost any time of the year. Early autumn is a good time, as it helps to keep the bees dry during winter. Good white-lead paint is the best. 2. So soon as the bees require room in spring. 3. The failure arose mainly from not properly understanding the principles of the "Wells" system. If the "division of wood" between the two compartments of the hive was perforated, and the perforations not stopped up with propolis, there should have been no fighting.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A CORRESPONDENT writes:—"Will some one of your numerous readers kindly inform me through the B.J. the nearest place to Great Yarmouth where I can purchase bee candy and requisites?"

CHAS. HARVEY (Stoke Prior).—*Foul Brood and Compulsory Powers.*—Our correspondent will, on reference to p. 31 see that we agree with him in "thinking that too much is being made of the foul-brood question," and this will account for our not occupying space with his own letter in full. But apart from this view, we cannot help observing that the book to which he refers has been extensively advertised in our pages (testimonials included) at the expense of the author, and we don't quite see our way to inserting so large a "free ad." as is contained in the letter before us. Besides, methods of curing foul brood (including the one we are asked to print) have appeared in our pages over and over again in the past under various persons' names, yet foul brood is with us, and so before testimony as to remedies becomes of any real value it should be backed up by practical experience of them, which our correspondent has apparently had none.

GEO. STOCKS (Sandiway, Cheshire).—*Mr. Wells's Report.*—One thing we thought unnecessary was taking up space in repeating at full length the particulars given by Mr. Wells, with only the difference in price obtainable for the honey in Cheshire compared with Kent. Our personal experience of "Cheshire prices," too, are completely at variance with those of our correspondent, and we should like to have some corroboration by other Cheshire bee-keepers that good honey produced in that county will only realise 5d. to 5½d. per lb. The sample sent cannot be called "good Cheshire honey," but it is surely worth more than the price quoted?

A. HAWKE (Sheffield).—*Medicating Bee-Candy.*—The particulars for medicating are sent out with packets of N. Beta sent from this office. Mr. H. Crawley, 250, Canbury-park-road, Kingston-on-Thames, is the bee-keeper who sent out bee-plants free to applicants.

A. T. FINCH (Old Bramhope).—*Honey Granulating.*—It is one of the curiosities of granulation, that honey gathered in some seasons will granulate much more rapidly than that stored in others; '94 was a year of early granulation, '93 was not—hence the anomaly to which you refer.

W. H. J. MALTHOUSE (Arundel).—*Bees Deserting Hive.*—There is no trace of disease in comb received. The bees have evidently deserted the hive owing to its becoming queenless after swarming.

A LITTLE GOOSE (Normandy Park).—Are we to understand that the "body box with top nailed on" is not fitted with movable frames? If so, we should set the body-box, holding standard frames, above, and when the bees had taken fully possession of it for breeding, would set it under the frameless box below, using the latter as a surplus chamber, preparatory to doing away with it altogether.

SHEPPERTON (Middlesex).—1. Recipe for candy making is given at p. 387 of B.J. for Sept. 27 last. 2. Supers are set on so soon as the hives are well filled with bees, which by their activity show that honey is being gathered. We strongly advise your procuring a "Guide Book" on bees, which will supply needful and essential information on many points, if you are to make a success of bee-keeping.

F. W. MOREY (Ventnor).—Honey is very fair in quality, gathered chiefly from heather.

BEE-KEEPER (Rotherham).—Comb sent is very badly affected with foul brood.

J. C. BAMLETT (Penzance).—*Best Hives and Best Systems of Bee-keeping.*—The questions of best hives and systems are so entirely matters of individual opinion, that we could not take upon us to state in so many words which is best. We know what our own preferences are, but it does not follow that all should adopt our views. As to the "Wells" system, we advise learning how to manage single-queen stocks well, and try the double-queen plan later. If you can make it succeed, as many have done, increase your "Wells" hives, but not otherwise. Meantime you might peruse Mr. Wells's pamphlet, to make yourself thoroughly acquainted with the method followed.

(*Several Letters, &c., are unavoidably held over till next week.*)

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

Meeting of the committee, held at 105, Jermyn-street, on Thursday, 24th inst. Present T. W. Cowan (in the chair), H. Jonas, Rev. C. W. Bancks, W. B. Carr, Major Fair, J. Garratt, C. D. Till, J. H. New, and Messrs. J. M. Hooker and F. H. Meggy, ex officio; John Huckle, secretary.

Communications were received from the Hon. and Rev. H. Bligh, Mr. W. O. B. Glennie (treasurer), Captain Campbell, and Mr. W. H. Harris (who had previously attended the special committee meeting), regretting their inability to be present.

The minutes of the last meeting were read and confirmed. The statement of accounts for the year 1894 was considered and approved.

Correspondence with the Hampshire Association, and the Bath and West of England Agricultural Society in reference to the association being represented at the forthcoming exhibitions to be held at Taunton and Bournemouth, was read, and it was decided to offer to carry out exhibitions on same conditions as last year.

The Educational Sub-Committee recommended the following as suitable centres for conducting third-class examinations during 1895.

Group 1. Notts, Derbyshire and Leicester.
" 2. Lancashire and Cheshire.
" 3. Staffs, Shropshire, and Warwick.
" 4. Berks, Oxon, Bucks, and Hants.
" 5. Cambs, Beds, and Hunts.
" 6. Gloucester, Worcester, and Hereford.
" 7. Glamorgan and Carmarthen.
" 8. Dorset and Somerset.
" 9. Devon and Cornwall.
" 10. Lincoln, Rutland, and Northampton.
" 11. Herts, Middlesex, and Essex.
" 12. Surrey, Sussex, and Kent.
" 13. At Darlington for surrounding Counties.

The centres as enumerated above were approved.

The Special Foul Brood Committee reported progress, and stated that they had met three times, and at the first meeting had drawn up a list of statistics and other information which they required, and had it inserted in the B.B.J. in order to get the information from those in a position to give it. A marked copy of the JOURNAL had been sent to Secretaries of County Associations, with a letter asking them to furnish the committee with information. Up to the present replies with information and suggestions had been received from Berks, Bristol, Derbyshire, Hereford, Lincoln, Notts, Surrey, Staffs, Warwickshire, and Wilts. The statistics have been tabulated and will be of great use. That morning statistics had been received from Essex, Lancashire, and Cheshire. Kent, Middlesex, and Worcester have also promised to send full information, which is being prepared. All support the action of B.B.K.A. in seeking for compulsory powers for dealing with foul brood. Valuable information from a private source has been supplied with regard to Surrey, Sussex, and Hampshire. No replies have yet been received from Glamorganshire, Hampshire, Hunts, Leicester, Norfolk, Oxford, Shropshire, Wotton-under-Edge, and Yorkshire. Very full statistics had been received from the Irish Bee-Keepers' Association with regard to foul brood in Ireland, and the committee of that association had passed a resolution approving the action of the British, and the secretary had written asking that the deputation should urge that any measures for dealing with foul brood by the Government should be extended to Ireland. The Ulster Association had also written supporting the action of the British.

In order to ascertain whether the act of 1890 had worked successfully in the province of Ontario, Canada, the chairman wrote to Mr. Holtermann, and had received the following reply:—

Ontario Agricultural and Experimental Union,
Brantford, Ont., January 8, 1894.

DEAR MR. COWAN,—Your letter 28th ultimo to hand, and in reply would say I have been somewhat interested in the discussion which has been going on in the BRITISH BEE JOURNAL re legislating about foul brood. I am by this mail asking the Department of Agriculture, Toronto, to send you half a dozen copies of the act. Before telling you what I know, it would perhaps be well to give you an idea of the opportunities I have for getting information upon the subject. I have attended most of the county bee-keepers' associations during convention, followed the proceedings of the Ontario Bee-keepers' Association attended the leading exhibitions of our province and Dominion for four or five weeks every fall. I am out for the fourth year addressing farmers and bee-keepers in the province upon bee-keeping for the Ontario Government, three weeks during past years, and five weeks has been mapped out this year, always in different parts of the province. I am editing the *Canadian Bee Journal*, and also have all letters with questions upon bee-keeping handed over to me belonging to the extensive correspondence of supply dealers (Goold, Shapley, & Muir Company, Limited). With all these opportunities of meeting and hearing from bee-keepers, I know of only one man who objects to the Foul Brood Act. That man is a Mr. H. E. Hall, I believe, of Peterborough, Ont. He is known to me and a few others as being opposed to the Act, otherwise I never heard of him. On the contrary, as years pass by, we are better pleased that our provincial Government has given us something of so great a value to the bee-keeping industry.

We are still finding foul brood, and much more than we care to own, but there is no doubt it is being brought under control steadily. In fact, no country can really form anything like an idea of the extent of the disease until machinery has been brought into play such as we have in Ontario. There has, of course, been fear that great loss would result to those having foul brood in the apiary for the benefit of those not having the disease; but such fear is passing away. The inspector is a man of tact and judgment, and uses both when necessity calls for it. He gives every reasonable chance to cure diseased stocks, and only when all hope of saving the bees, or when the bee-keeper appears to neglect his duty, does he destroy. In very few instances has it been necessary to do this, and generally when some meddlesome person has interfered and encouraged resistance. Often has the inspector visited an apiary and been at first received with frowns and clouded looks, but before his final visit was paid he has been looked upon as a benefactor. He is looked upon more as a man to point out disease, and to instruct as to methods of curing and preventing the spread of the disease rather than to destroy property under the law. There have been one or two instances in which bees have been destroyed through negligence to cure; but the district and the country have thus far supported the inspector, and even those against whom the act was turned, I believe, condemned not the act, but the inspector, and said his action was not legal. I can give instance after instance in which the inspector detected the disease in apiaries when the owners were ignorant of its existence, and where, but for the provisions of that act, the entire apiary would have been destroyed. I have now on my desk two letters, one asking that the Government be asked not to do away with the inspector and the act, but to ask the Government to set aside 300 dols. per annum for an inspector for each county, making an annual expenditure of something like 15,000 dols. for the province. This comes from a man whose apiary is nearly ruined with foul brood, who is anxious to do everything in his power to cure it, and only wishes that the inspector had arrived sooner. Another one wishes to have a set of lecturers appointed to go about the country and have meetings describing the disease; but the difficulty is to get those who should be reached, out to these meetings. When at the North American Bee-Keepers' Convention at St. Joseph, Mo., U.S., the question was asked, "What could the Convention do to prevent the spread of foul brood?" Some one said, "Nothing." That was the end of the discussion. But I do not think the question will end there; foul brood is a hidden enemy, and I am afraid it will continue to spread over the United States or any other country, and it must finally be stamped out or the bee business will be wiped out. It appears to me the only way to hold it in check or subdue it is by Government authority, as other contagious diseases are kept under. In conclusion, let me say, I cannot understand how any man can conscientiously say that the act in Canada has been a complete failure, and the appointment of an inspector has been the ruin of bee-keeping in our country. We have considered Mr. H. E. Hall in the past as an extremist, and some years ago, probably January, 1893, he wrote a letter to the Ontario Bee-keepers' Association asking for some sweeping changes in the act. That letter was, upon prompt resolution, tabled for a term of years without one dissenting voice. You can give the above any publicity you see fit. I am prepared to publicly deny that I know of a single person, with the exception of Mr. H. E. Hall, objecting to the Ontario Foul Brood Act. No one in all my experience, either by letter or word of mouth, or in any other way, has communicated any dissatisfaction with the act, and, to my knowledge, in only two cases have objections been made to the action of the inspector. I should say by all means let your bee-keepers take the necessary steps to secure the passage of a Foul Brood Act. The act gives light to those not properly informed, pointing out the disease and the remedy, and when necessary, as unfortunately it is in rare instances, it reaches those unwilling to act justly by all men.—With kind regards, I remain, yours truly, R. F. HOLTERMANN, Secretary.

Their chairman (Mr. Cowan) had drawn up the following suggestions to be incorporated in a bill, which will be taken into consideration at the next meeting of the Special Committee:—

1. The powers and duties conferred by this act on the Board of Agriculture shall be discharged in the manner provided by the Board of Agriculture Act, 1889, and the Diseases of Animals Act, 1894.

2. The local authorities to execute and enforce the act.

3. The local authorities in England and Wales shall be—

(i.) In boroughs, the Borough Council.

(ii.) In other places, the County Council.

4. Every person having in his possession, or under his charge, hives of bees suffering from foul brood shall—

(i.) With all practicable speed give notice of the fact of foul brood existing to a constable of the police force for the area wherein the hive so affected is.

(ii.) The constable to whom notice is given shall forthwith give information to such person or authority as the Board of Agriculture by general order direct.

5. The County Council or local authorities to appoint suitable experienced men as inspectors.

6. The inspector to have power to order destruction of combs and frames when foul brood is in an advanced stage, or, at his dis-

cretion, in mild cases to resort to remedies for preventing the spreading of the disease.

7. He shall order hives and appliances to be disinfected in such a manner as may seem to him most efficient.

8. If his instructions with regard to remedies and disinfection are not carried out he shall order destruction of hives and contents.

9. He may report a district within a certain area infected, and no bees, combs, hives containing bees or combs of honey or brood shall be sent out of that district until the restriction is removed.

10. He shall thoroughly disinfect his person and clothing after visiting an infected apiary, and see that this is done by those assisting him.

11. When receiving notice of disease in an apiary he may, upon giving notice to those in charge, visit and inspect the hives in any apiary in the immediate neighbourhood within a radius of one mile.

12. If any person is guilty of an offence against this act he shall for such offence be liable to a fine not exceeding ——.

13. If any person does any of the following things he shall be guilty of an offence against this act—

(i.) if he knowingly omits to give notice.
(ii.) if he exposes diseased stocks, combs, honey, or appliances to the danger of other bee-keepers.
(iii.) if he sells or in any way disposes of the same.
(iv.) if he disobeys or obstructs the inspector in his duties.
(v.) if he gives false information.

14. Where stocks are ordered to be destroyed compensation shall be paid—

(i.) where stock was affected with foul brood, one half value of the stock before it was destroyed.
(ii.) in every other case the full value before it was destroyed.
(?) Whether compensation should be in bees from a healthy district or in cash.

15. The local authority may employ experts to assist the inspector, and to value stocks, &c.

16. The inspector to send report of number of hives visited and number destroyed, and what measures have been taken to disinfect.

The committee cordially thanked their chairman (Mr. Cowan) for his untiring exertions in preparing maps of the infected districts, and other work of considerable detail, necessary for the consideration of the subject.

Mr. Hooker's name was added to the Special Committee.

The committee also recommended "That, owing to the prevalence of foul brood and the necessity of having every case reported, in future only such experts as have passed the special foul-brood examination since 1889 be employed by the B.B.K.A., and that present experts not so qualified should be required to pass such examination. Also that the attention of the affiliated associations be called to this new regulation."

The following new members were elected, viz., Mr. James Dudin, Bush Hill Park, Enfield; Mr. F. McConnell, Blackyett, Ecclefechan, N.B.; Mr. A. G. Pugh, Buxton, Notts.; Mrs. E. A. Hawkes, Polyphant, Launceston. This concluded the business of the meeting.

IRISH BEE-KEEPERS' ASSOCIATION.

The committee, believing that valuable information may be afforded by means of Mr. Cowan's photograph of comb affected with foul brood, and the particulars as to the disease on the back, have arranged to supply a copy post free to any member willing to contribute the small sum of twopence towards the cost.—HENRY CHENEVIX, *Hon. Sec.*, 15, *Morehampton-road, Dublin.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2205.] On reading over my "Notes" of last week anent Mr. McEvoy's method of treating foul-broody colonies I fear I have not been explicit enough; therefore, I trust readers of B. J. will not feel bored if I return to or continue my remarks on the subject this week.

Section 3 of the Foul Brood Act (Canadian) gives the inspector power to burn the whole apiary if infected with foul brood, and possibly my fourth paragraph (p. 23) may convey the idea that Mr. McEvoy does not use the power by burning in stamping out the pest. Allow me to correct that impression at once, and state how much is burnt and how much is saved by his method. The inspector visits an infected apiary preferably in May or June, when honey is coming in, waits till the bees have ceased flying for the day, opens the hive, shakes off all the bees into the same hive from the combs, drops in some frames with starters only into the hive

with the bees, replaces the quilts and cover, and leaves the bees to do the best they can for four days. If the weather should be bad a little food is given to keep them from starving, and the whole of the frames, combs, honey, brood, and pollen, from which the bees have been shaken, are burnt at once. Where there are several hives they are all treated on the same plan, and where colonies are reduced in numbers Mr. McEvoy unites the weak lots, adding, of course, to those in the next hives—to prevent flying bees next day mixing up—and removing the hive. This removed untenanted hive will require scrubbing out, as in shaking the bees from the combs some honey may have been shaken out also, and this honey may teem with the germs or spores of the *bacillus alvei*. Then at the end of the fourth day the bees are shaken from the frames and combs which they have built during the time, and these frames and all their contents are burnt. This is a *sine qua non* of his treatment of the disease. After the frames containing the four days' work have been removed, frames fitted with whole sheets of foundation are given, and the bees start again precisely as a new swarm would, so that by this method the hives are saved, and the bees are saved, and thus, though paradoxically it may seem, the colony of bees are cured of the pest.

Another item of importance, especially where only part of an apiary is infected, is that all the work connected with carrying out the method should be done during the evening, after the bees have ceased flying for the day.

The experiment of Mr. Mackenzie, B.A., quoted in B.J. (2181, p. 24) confutes the often-expressed notion of bee-keepers—and generally received without question—that chilled-brood is a veritable hotbed for the germination of foul-brood spores; the experiment rather points to the fact that the germs of *bacillus alvei* thrive best in the cells containing brood not chilled, but starting into growth in the hive in a normal condition. Chilled brood is apparently a more suitable developing-ground for septic bacteria than for *bacillus alvei*. I do not by this contention wish to minimise the danger to a colony by injudicious handling, and more particularly spreading the brood nest in our uncertain climate, but simply wish to point out a fact in relation to what, in our present knowledge of the disease, I think I may term a modern error, and should not be overlooked when dealing with the foul-brood question.

Mr. McEvoy positively asserts that foul brood is spread principally by honey from foul-broody hives, therefore contends that all the frames, combs, and contents shall be burnt; and Dr. Howard, M.D., of Texas, has proved conclusively by experiments that Mr. McEvoy is right in his contention that spraying combs with antiseptics and feeding bees with medicated food cannot radically cure foul brood. Proof of this do I hear some one observe? Both these gentlemen say that the disease germs or spores are fed to the larva by the nurse-bees, and that honey is especially the medium by which it is transmitted to the larva. Dr. Howard contends that the honey is contaminated with the spores of bacillus by being stored in cells in which brood has died, rotted, and dried up at the bottom of the cells into a dark, shiny, glutinous mass, which is immoveable by the bees, and that this dried-up mass has been proved by experiment to contain the disease in the spore condition. Now, when honey from these cells is used by the nurse-bees as food for the larva the spores are fed in the food, these germinate, and by their growth produce chemical poisons, which eventually kill the larva. These infected larva are ofttimes sealed by the bees. (Why bees should cap over or seal up dead or dying brood we leave to further investigation.) This sealing of the brood prevents ordinary putrefactive bacteria from attacking the brood for a time, or until the hole is made in the capping; after the putrefactive germs gain a lodgment, putrefaction goes on and finally dessication, the putrefactive germs dying in their own prisons, leaving the spores of *bacillus alvei* in the dried-up residuum for a future resurrection and reproduction so soon as another egg deposited in the cell progresses to the larva stage of its growth which receives infection by actual contact with the spores in the cells, or is fed with food stored in such infectious storehouses.

The very fact that pure cultures of the disease have been grown from honey stored in these cells, and that honey, though not a media suitable for the growth or germination of these spores, yet honey will hold the spores in a quiescent state for indefinite periods, shows how necessary it is, as a prime factor in dealing with the disease, to remove this source—nay fount—of infection. Mr. McEvoy's method does this, and also teaches us that the adult bees are not subject to, and do not contain germs of the bacilli; and, finally, that the queen is not infected either—not even in her ovaries.

Referring to compensation for bees dealt with under compulsory powers, I would suggest that compensation take the form of "kind," not cash, and that "kind" should be a restart in bee-keeping, otherwise I feel sure that hundreds, perhaps thousands, of bee-keepers will be snuffed out never to start again; whereas, if compensation is given in "kind," a new apiary will arise phœnix-like out of the ashes of its predecessor. As to how far compensation shall go; if it shall be full value on the appraisement of a healthy stock, no doubt many will hail its advent, but if only half-value of a healthy stock, the eagerness to share its benefits will be somewhat damped. In dealing with bees, the Contagious Diseases (Animals) Act will not apply, from the fact that sec. 16, s.-s. 1 (*b*) "same field,"

&c., will require much modification for it to be applicable to insects still in a state of *ferœ naturæ*, though owned and domesticated to a certain degree, yet beyond control when fulfilling their part in the economy of nature. Sec. 2, sub-secs. 1 and 2, C. D. A., affected creatures' (in our case, colonies) owners receive half. Those that have passed over the trail and have escaped, yet because they have been in the same field must be slaughtered, receive full compensation. How will the area be defined if the fine flight of the late Mr. Cheshire's fancy be accepted that adult bees may carry the germs of the disease, we hope to stamp out, from flower to flower, and that other bees from a distance may contract the disease and carry it miles in another direction. Bees cannot be confined within even county boundaries, except those boundaries of counties are sea girt. I only throw out these hints for discussion. — W. WOODLEY, *Beedon, Newbury.*

FOUL-BROOD LEGISLATION.

IS IT TO BE THOROUGH?

[2206.] As Mr. Woodley intends writing to the Inspector of Foul Brood in the Province of Ontario for particulars as to the working of his remedial measures ("Notes by the Way," 2181), may I suggest that he should ask the following questions? 1. In how many cases, if any, has foul brood reappeared in any apiary within one year after the reported cure? 2. How many within two years? 3. Does the inspector visit more than one apiary in a day? 4. What, exactly, is the process of self-disinfection adopted? These points are, as I think can be shown, of much importance.

It would be truly comfortable to set aside, as Mr. Woodley suggests, the theories of scientific bee-men, and to believe that by adopting the Canadian remedy, as reported, we can stamp out the enemy. But the existence of bacillus alvei and its spores as the cause of foul brood once admitted—and a careful study of Mr. Cheshire's chapter on foul brood, with its instructive figures of microscopic preparations, will convince the most sceptical. We have only to consider for a moment the general obstinate vitality of the spores of the large family of split-for-increase fungi, to which our bacillus belongs, to come to the sad conviction that not one of the remedies hitherto recommended can be relied on to effect more than partial or temporary cures. The virulent action of the disease may have died out with the bacillus, but under ordinary circumstances the spores still exist, and should conditions suitable to germination arise, foul brood will be apt to reappear. The bacillus can be discerned only under high microscopical powers; the spore is but $\frac{1}{23000}$ in. wide by $\frac{1}{12000}$ in. long. Cheshire tells us that one of the diseased bee-larvæ will contain one thousand million of them. He kept spores for sixteen and a half months exposed to extremes of temperature without impairing their vitality.

Experiments on diseased comb carried on in "moist chambers" (Mr. Woodley's notes, p. 24) can hardly have much bearing on what goes on in a busy and well-ventilated hive. It is well known that spores of bacilli are conveyed in the air in great numbers, so that it is only by careful precautions that bacteriologists are able to keep their cultivating mediums sterile till wanted for experiment. But even if we grant, for sake of argument, that the spores of our bacillus are not airborne, the nursing bees and the ordinary traffic must obviously spread them throughout the infected hive, and the bees themselves must be covered with them. Hence, although we can destroy the contents of the hive and eliminate the bacillus by feeding with naphthol beta, and by removal of the freshly-produced comb, the bees themselves cannot fail to convey the spores to their new habitation, so that, after all, the little germs of future trouble are only lying dormant.

It follows that not only is the picturesque skep doomed, as Mr. Woodley says, but that, unless we are to content ourselves with a mere palliative, all diseased stocks must be destroyed, and the hives thoroughly disinfected. We need not despair for the future, but at present there is no known remedial method which gives a hope of *stamping out* foul brood. Mr. Bancks gave us hopes of success by treatment with bromine. Unfortunately it seems that he has not found it practical. Mr. Blow has modified the terms in which his new remedy was first advertised, and he must pardon us if we feel unable to accept his original statement, though doubtless made in complete good faith, without some scientific proof as to destruction of the spores. To say that a cure will be effected in a month or two means very little. Naphthol beta will certainly do as much. I have the misfortune to be qualified to speak with some authority. It is about five years since foul brood was first introduced into my apiary by my foolish acceptance of a hive of bees from a friend who was leaving the neighbourhood. It was in the winter when examination was difficult. Next spring I had two colonies diseased. I destroyed them. Disease reappeared the following spring. Since then I have either destroyed colonies or treated them with naphthol beta, and for months together have been free from all signs of disease. It has been my practice to feed each autumn with naphthol beta and to use naphthaline. In 1893 the combs were so fully stored that I omitted to feed. Next spring, 1894, I found two stocks diseased. One I destroyed. The other had such a bright young queen, and the bees were so vigorous that I had not the heart to destroy them. I may say that my treatment was very thorough. Bees shaken off combs into special empty box. Hive contents burned. Bees confined if honey was plentiful,

and fed on strongly medicated syrup. On fourth day run into fresh hive, with starters, and fed on same syrup. In four days more frames removed, and fresh frames with foundation given. Bees fed as before. The colony last saved was fed with syrup medicated with Mr. Blow's remedy. By its smell it should be mainly a tar product, such as Jeyes' and many other disinfectants. The label states that "it is an advantage" to spray the combs with a weak solution at the outset of the treatment. I found that the bees would take without much reluctance, and apparently thrive on, a solution six times as strong. It is hardly conceivable that such a spraying would destroy even the spores it might touch.

As to disinfection, I have used scalding with hot caustic soda, painting with pure carbolic acid and methylated spirits in equal parts, and heavy sulphur fuming. There are few bee-keepers in my neighbourhood, and to the best of my belief there has been no foul brood within miles of me for years past. What other conclusion is possible but that the spores have survived, and that when not kept down by special treatment, they have managed to germinate?

Question No. 4, on self-disinfection. The reason will be apparent. As long as the inspector confines his operations to one case a day, and changes his clothing, completely disinfecting both it and his own person—no easy matter—he is not likely to spread infection. If, on the other hand, we are destined to receive the friendly visits of an official who has been on tour, careering from village to village, and farm to cottage, on a bicycle, he will certainly be an object of terror to thoughtful bee-keepers.

More power to the British Bee-Keepers' Association! with all my heart; and may the shadow of its subscribers never be less. But, with all deference, it will not do to leave the matter entirely to the committee. After taking in the B.B.J. for a few years one is apt to forget how many British bee-keepers have never seen the journal or heard of the Association, and how many more neither take in the one nor subscribe to the other. Stamping-out foul brood is a far more complicated business than getting rid of swine-fever, and the latter is yet to accomplish. There will be much opposition, and very naturally. Those of us who know the ins-and-outs of the question must be able to justify legislation. To do this we should first make up our minds what we want, and why we want it.—South Devon Enthusiast, *January* 19.

COMPULSORY POWERS.

BEES AND FRUIT GROWERS.

[2207.] With reference to the crusade anent foul brood, I consider it a very wise step, especially to fruit-growers, as in this locality there are hundreds of acres of top and bottom fruit grown; and whatever should we do if this terrible pest is to annihilate our army of fertilisers? I know from personal experience that we should not get one-tenth of the fruit if it were not for the bees. My own experience is a case in point. When I commenced fruit-growing, sixteen years ago, I started with one stock of bees, and there were not many kept in this district at that time. However, I noticed that my gooseberry bushes and apple trees around where the bees stood always had more fruit on them than the remaining part of the orchard. The following year I increased my stocks to four, and put them in various parts of the garden; the same result followed as in the first case cited. I am now the possessor of forty stocks, and through the good cultivation of my garden combined with the abundance of bees, I have in the last four years taken as under:—1890, 6 tons 14 cwt. of berries, 300 bushels of plums and apples; 1891, 7 tons 1½ cwt. of berries, 150 bushels of plums and apples; 1892, 8 tons 3½ cwt. of berries, 200 bushels plums and apples; 1893, 8 tons 15 cwt. berries, 400 bushels plums and apples; 1894, 9 tons 1 cwt. 1 qr. berries, 250 bushels plums and apples, and 100 bushels pears. This is the returns of 3½ acres of land. So good has been the result that I have purchased 5 acres of land and am planting it with fruit.

My bees pay me now on an average £25 a year, and I do not know what I should do without them now if this pest of foul-brood was to infest this district—and I am sorry to say I can put my hand on several malignant cases not many miles from here. One case was a very hard one. Two old poor people in the declining years of life used to keep thirty skeps, but the whole of them died out in two years. They still preserve their skeps for future use, to spread the disease. If the law can be made operative to destroy foul brood, it will be the one sure method of keeping down the disease. The above facts I can prove if required. Trusting you may succeed in your endeavour. I am sure you will have the good wishes of all bee-keepers.—R. Brown, *Somersham, January* 22.

UNITING BEES.

DR. MILLER ON HIS "PLAN."

[2208.] In a late number of your valuable publication a correspondent (2143, p. 508, vol. 22) reports failure in trying to unite bees by placing one lot over the other, with nothing between them but stiff paper having in it a hole for one bee to pass. Your editorial foot-note explains quite clearly why there should have been trouble. There is also another thing in the case that differed from the way I have done. If I understand him correctly, your correspondent put the bees over with no chance for egress from the box in which they were imprisoned except the hole that allowed them to go down into the other hive. The bees

would escape as prisoners, and would be in that disturbed state of mind that would court their prompt dispatch. In the few cases that I tried—and you will please note that I don't warrant success—I allowed both upper and under colony their usual entrance wide open. I think that might make a material difference. Of course, that will allow the removed colony to go back to their old place unless provision is made against it, but that must be done in any case.

In another number you reply to an inquiry to the effect that artificial heat should not be employed for wintering bees. Now, if you were reasonable enough to stay within the bounds of your "sea-girt isle," I would have no word of dissent; but you have a way of breaking over such bounds and getting thousands of miles away, and it is entirely within the possibilities that some of your readers might be the better to have their bees warmed by stove heat. I think you were entirely right in that particular case; and, moreover, I don't think an oil stove ought ever to be used, either for man or bee, without means to carry away the gases directly from the flame.

Without entering into argument, I'll give you my own case. My cellars are what are considered good, but, like most cellars in this region, if left to themselves the temperature will sink below the freezing-point a good many times. To avoid that, and to keep the temperature somewhere between 40 deg. and 48 deg., I have a small cylinder stove in each cellar, the part that contains the coal (anthracite) being 12 in. deep and 8 in. in diameter. When the thermometer in the cellar sinks below 45 deg., which it does very soon after the bees are put in the cellar, I start the fire, and it is kept going day and night until the warm weather of spring makes it unnecessary. For years I wintered from 200 to 400 colonies in this way in a satisfactory manner. Then I thought I would try them one winter without fire, and lost heavily. Another winter I tried putting in occasional fires, as bees get an occasional warming up in winter outdoors, but that also resulted in much loss. So I have again gone back to the steady fire for all winter. I don't know of any harm the fire does. The stove door stands wide open, the stove stands right in the same apartment with the bees, and if any bee should have a predilection for cremation there is nothing to prevent the indulgence; but the deaths all occur, I think, outside the stove, the dead bees being found on the ground. Now, if I lived in England, or if I had cellars warm enough, I might object to artificial heat. As it is, I am sure I am better off with it.

Sometimes towards spring, when the weather is above 45 deg. outdoors, the fire is allowed to go down, and the bees become uneasy. At such times I have tried the experiment of making a fire and raising the temperature, perhaps to 60 deg. or more. At first the bees make a great roar, but as the fire dies down they subside, and are then very quiet. I think the heat helps to change the air of the cellar. For when the temperature is the same inside as out, of course there will be no change of air, and it will become foul.—C. C. Miller, *Marengo, Ill., U.S.A., January* 17.

BEES AS A "HOBBY."

[2209.] Confined to home with severe cold, my thoughts turn longingly to my now snowed-up bees. I see the white hive tops in my lower garden, sixty yards distant, but neither can I go to the bees nor can they come to me. Memory fondly reverts to the happy hours spent with them last season, and I keenly anticipate the fast coming time when ice-bound winter shall give place to genial spring, and my little friends be foraging for their first pollen from arabis, crocus, and catkin. Speed the pleasant time!

In the summer of 1890 I was bantered by friends on setting up two hives of bees. "Sting-y things! You will soon be sick of them!" "They cannot be made to pay!" Such was the left-handed encouragement which did me more good than a lot of fine compliments would have done. I determined to succeed, and I did. Of course, in common with scores of fellow-readers of your paper, I refer to my bee-keeping, not as to a business, but as to a small cult or hobby. Nobody expects to live on twelve or sixteen hives of bees; but, as most men are happy with a hobby, they must be happier when it can be made to pay. On page 435, November 2, 1893, I told you how I had done for that season, having taken between 5 and 6 cwt. of good honey from fourteen stocks. During the season of 1894 I obtained nearly 5 cwt. from twelve stocks. This is counting my two "Wells" hives as one stock each. Nearly all my honey was extracted from shallow frames, and of good quality. I bottled it all in screw-capped 1-lb. bottles, and have sold nearly all of it retail at 1s. 2d. per bottle, the remainder going at 10s. per dozen wholesale. My receipts for honey at close of 1893 were £23. 6s. 4d., and for 1894 £20. 6s. 11d. Against this I have only to set expense of bottles, carriage to local shows, &c., because I was pretty fully equipped in appliances and foundation before these two seasons set in. I showed honey and an observatory hive of bees at all our local flower shows, explained bee-life to the visitors, and sold them the honey. This created a future market, too, and many people have called upon me without my having to keep shop, "for more of that nice honey they had at the show." I give these particulars chiefly as encouragement to beginners, especially those who tell us in the Journal sometimes, that, though they have succeeded in obtaining honey they can get no market for it, except at losing prices. I want to testify once more to the soundness of the Wells' principle in the hands of those who

have once learned how to manage bees in single stocks. I think the failure will only occur where the learner attempts too much at first. My Wells' have again eclipsed any other stock in production of honey.

I tried wide shallows last season, that is, eight in a box instead of ten. I got much heavier slabs of honey at less labour to the bees, no doubt; but I got them built down continuously to the frames below, as others did. This discounted some of the advantage, but advantage there was, as I soon found, when extracting. I bought no wide ends. I had a lot of ordinary "W.B.C." ends by me, so I opened out the ends of every other one with pliers, and there you are! Eight frames fit just where ten did before.

Regarding the discussion on compulsory powers for stamping out foul brood, I quite agree therewith. I have never seen it. I don't want it. I use preventives. But if I had it I would make short work with it. I would prefer to "burn the lot" and start again.—HORNINGLOW CROSS, *Burton-on-Trent.*

FOUL-BROOD REMEDIES.

[2210.] Referring to Mr. Davenport's letter (2185, p. 26), I can assure him he is not the expert alluded to. As to the statement quoted in my letter (2158, p. 4), however rash or unwise it may appear to Mr. D., it was received by myself and others with good faith at the time; moreover, our informant was an "expert" employed by the Association, if the report now before me is a truthful one; if not, the blame rests with those by whom it was drawn up. I always read with interest anything from across the Atlantic appearing in the B B.J., and thought it possible Americans might be a little before us in their methods of treatment of foul brood. Alas! that thought is now dispelled.

It is gratifying news to know the county of Worcester is not suffering badly from the foul-brood pest, and I hope the little there is will soon be stamped out. Although my name may not appear in the books of the W.B.K.A., I am proud to say I belong to an association that is doing good work.—WILFRID HARDIE, *Bromsgrove, January* 19.

CLEARING BEES FROM FRAMES.

[2211.] The plan proposed last week by Mr. Hall (2200, p. 37) is, I fear, too troublesome for general use, and the bees might as well be shaken off the combs. It is usually sufficient to put a quilt under the super, leaving for communication a small feed-hole, or turning back a corner of the quilt. Above the super put a thin quilt, or, if the weather is warm, no quilt at all; and it is better to put the frames far apart.

If the hive is very strong, or the weather is very warm, or if there is insufficient room below, the following plan (No. 2) may be adopted, viz.:—Put a quilt below the super, leaving *no* communication with the brood-combs, but leave a small opening to the super from behind a dummy. No quilt should be put on the super. This plan I have found very effectual, and I have used it to clear bees off stored combs for extracting. I do recommend it for *that* purpose, as the combs get cold, and they can be extracted much more readily when warm from the hive.

I should vary plan No. 2 in the case of a "W.B.C." hive by letting the super project over one side of the body-box, so that the bees could escape between the body-box and the outer case.

I may add that in plan No. 2 it is necessary to let some bees into the super to begin with if there are none on the combs.—T. F. L., *Brondesbury.*

[Referring to our correspondent's postscript —not printed above—we shall be very pleased to have the information he kindly offers to send for publication.—EDS.]

LISKEARD HONEY FAIR.

AN OLD CORNISH HONEY MARKET.

[2212.] Liskeard is a town on the Cornwall railway in the eastern division of the county, some fourteen or sixteen miles from Plymouth, and on October 2 is held the fair of the year, called St. Matthew's Fair. There is generally a large gathering each year, persons coming from all directions, some for the purpose of visiting friends, others on business or pleasure bent. Business begins early in the morning with the farmers' cattle market, which closes about midday; the afternoon is generally spent in various pleasures and exhibitions, whilst a good business is also done by the tradespeople, hawkers, and hucksters. But it is of the honey fair I wish to write, an old-established fair, of which not many such are now held in the country. A small part of one public highway is devoted to the sale of honey and wax, and to that spot about one or two p.m. on the day of the fairs may be seen the old time skeppists repair, man and wife, with one or two red-clay pitchers containing the honey, and a quart measure for measuring out; also a straw stick wherewith to test the consistency and taste the quality. One or two usually have supers of comb honey with weights and scales for weighing out, and myself (for the last five years) with comb honey in sections and extracted in glass jars. Not until this year have I had any competitors against me with sections.

I was sorry to see the number of sellers this year was reduced to six or eight, whereas in 1893 there were some eighteen or twenty, showing that we, too, in Cornwall, have suffered from the unfavourable weather of June last. The price of liquid honey started at 4s. per quart, but later in the day it dropped to 3s. 6d., which was the ruling figure. By seven o'clock I had disposed of all I took (about 140 lb.)

except eighteen sections, and, packing these up, I started for home, satisfied with my day's work. The time passed pleasantly, as it usually does when several of the fraternity get together. There are, however, but few bar-framists in the eastern division of the county, but I observed a growing interest in the new methods as shown by the many inquiries about it.

The selling price of honey at this fair may be taken as that of nearly the whole of the eastern division of the county. Some persons sell before this date at home, but at the price afterwards asked at the fair, where also many housekeepers lay in their year's store, the honey being used for medicinal purposes rather than for the table. In fact, we have not yet been able to produce honey in sufficient quantity for it to be seen frequently on the breakfast or tea-table; but we hope to get there, and shall if bee-keepers continue to place before the public a display of pure white sections and neat bottles of extracted honey; they must attract the eye, and that will affect the palate. Have we not all felt it?—JOHN BROWN, *Polyphant, Launceston, December* 21, 1894.

SUNDRY BEE NOTES.

(*Concluded from p.* 37.)

Hardiness in Bees.—One day last autumn, while "winter packing" the hives in my apiary during cold weather, I came across one lot—Italians—the bees of which could not stand to be separated from the main cluster, even for two or three minutes, without immediately becoming numbed. It struck me then that another hive close by had what I considered the hardiest strain of bees in the whole apiary, so, to test the two extremes, I shook about a dozen of its bees from a frame down upon the top of the quilts, and imprisoned them there by closing down the cover of the hive. My intention was to liberate them the next morning, but bad weather prevented me from going to the apiary, so I only liberated them the morning following. Well, although these bees had thus been separated from their colony during cold weather for about forty-eight hours, on opening the hive cover about two-thirds of them immediately flew around to the hive entrance, and the remainder also took wing a few minutes later on being a little warmed up in my hands. This explains the reason why the less hardy varieties of bees prefer to work on small plants, in the plain, where they receive the benefit of shelter and warmth, while the hardier varieties betake themselves to more exposed situations, where they give their attention preferably to the blossoms of bushes and of trees.

Distinguishing Foul-broody Bees.—If, during the active breeding season, we open a hive and find sealed brood in the combs, that is, not disfigured by the presence of an emptied cell here and there in it, we then know that the hive is perfectly healthy. If, on the other hand, we find an "emptied" cell here and there among the sealed brood, then the colony may be slightly affected with disease, and as such must be considered as only in a secondary condition as to healthiness. The emptied cells are those in which brood has miscarried, and the bee-keeper must learn to distinguish them from empty cells from which brood has issued in the natural way. Healthy brood, on arriving at maturity, issues from its cells and leaves them practically empty, but unhealthy brood dies in the cells, and such cells must be cleaned out by the bees, hence the term "emptied" cells. Empty cells are usually surrounded by mature sealed brood, while emptied cells are frequently found surrounded only by young brood that has just been sealed over. It is equally easy for a bee-keeper who has once learned how to distinguish foul brood, to tell if the combs are badly affected with the disease, or if the slightest trace of it is still present in any of the cells. But there are sometimes vigorous colonies affected with incipient foul brood, which manage to keep their combs clean, and only show a few "emptied" cells among their sealed brood to indicate their secondary condition. It is well for the bee-keeper, more especially for the expert, to be able to distinguish from the outside, during the working season, if a populous colony is thoroughly healthy by simply noticing the demeanour of the bees on the alighting board outside the hive, and thus to dispense with opening the hive for the purpose. The difference between a healthy colony and one more or less affected with disease is that in the former there are usually no bees to be seen during the working hours cleaning their hind legs on the alighting board, near the entrance; while all colonies where some bees are generally seen cleaning one hind leg with the other alternately must be regarded with more or less suspicion, and will invariably either have diseased brood or *emptied* cells visible in the combs.

Honey for Canaries. — Honey has been recommended, in the *Revue*, for canaries while moulting, so as to get them re-feathered quicker than they would without its use. During the past summer I had a female canary that, after losing her feathers, remained almost featherless for several weeks. So, remembering what I had read in Mr. Bertrand's *Revue*, I gave, each morning, half a teaspoonful of liquid honey on a piece of bread previously soaked in water, which I placed in the cage. About a week after commencing to do so, the bird began to show fresh feathers, and it soon regained a very fine coat of plumage. Just as I had commenced giving the honey the male bird, in the same cage, moulted, and immediately regained a fresh coat, without becoming and remaining naked, as had done its partner. —PETER BOIS, *Jersey*.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. DREW (Winchester).—*Foul Brood and Swine Fever.*—We can fully sympathise with our correspondent in his complaint as to the hardship the Contagious Diseases (Animals) Act entails on those who are unfortunate enough to suffer from its effects. It must be borne in mind, however, that the many benefit from the loss of the few. But what is the good of any one trying to preserve badly-diseased hives of bees? And where is the hardship in having hot-beds of infection put out of sight and of harm's way for ever? Nothing like "meddlesome interference" is intended in the action now being taken, and our correspondent—and all who think with him—may rest assured that the real interests of bee-keepers generally is the main object to be attained by those who are moving in the matter.

A. RAYNOR (Great Horkesley).—*Queen Cast Out of Skep; and Transferring for Beginners.*—It is quite impossible for us to say what has caused the dead queen to be thrown out. An experienced bee-keeper could tell in spring if there is still a queen in the skep, by turning it up and examining the combs, but for a "first season bee-keeper" the queenlessness or otherwise of the skep can only be determined from the outside by watching if pollen is freely carried into the hive in spring, and if the bees appear to work hard and increase in numbers. We strongly deprecate your joining the "weak lot" of bees in the other skep to the first named, and transferring both to a frame-hive. In adopting the frame-hive you should "start fair," and that is not by trying your hand at transferring combs and bees from skeps into the new hive, especially when the queen proposed to head the stock is now only the parent of a weak lot. Our advice is—populate the frame-hive with a good swarm, headed by a prolific young queen, and we shall hope to see you become a successful bee-keeper.

EXTRACTOR (South Norwood).—*Ants in Hives.*—1. The most effectual method of preventing ants from entering hives is to stand each leg in a vessel (an old lobster-tin will do) holding water. If the legs are previously scaked in gas-tar it will prevent decay from the wet. 2. Many such contrivances as you describe have been devised for adapting the "Little wonder" extractor to the later, or cylinder, form, but the latter can now be had for so moderate a price that the cash spent in improving the Little wonder would almost pay the difference between the two.

RICHARD M. MARTIN.—Comb sent in positively reeking with foul brood, and to give the honey from such combs (as you propose) to another stock would be the height of unwisdom, unless it was desired to ruin the lot. We should burn every comb and frame from the hive in which the bees have died, taking care that not a trace of them remained above ground for longer than could be helped.

ESHOLT (Huddersfield). — *Recording Bee-Keepers on Burgess Roll.*—Your suggestion—intended seriously, we suppose—as to revisers of burgess roll being asked to add the letters B.K. to names of known bee-keepers is unfortunately impracticable.

H. T. SPICE (Sussex).—*Compulsory Powers.*—We think our correspondent will find a fairly satisfactory reply to his communication in the report of the proceedings at the meeting of the B.B.K.A. committee, which appears on another page of this issue. Nor have we any doubt as to his being actuated by no unfriendly spirit as to the good intended by the proposed action.

J. MANSON (Renfrew). — *Pressing Heather Honey from Old Brood-combs.*—We fear it is not wax but pollen which makes the honey "yellow in colour and peculiar in taste." If our idea is correct, and it is more than probable, nothing can be done to improve the honey.

H. EDENBOROUGH.—*Extracting very thick Honey from Combs in Winter.*—Cut up the combs and place them in an earthenware jar, which latter is then inserted in a pan large enough to allow the jar to be completely surrounded by water (this is important) to the height of the combs; three or four small pebbles on bottom of pan will secure this. Let it heat slowly until the wax melts and rises to the top, whence it may be removed in a solid cake when cold. If jar comes in direct contact with bottom of pan the honey will burn and spoil. Nor must it be subject to great heat for a long or it will deteriorate in flavour and quality.

W. MORRIS FLETCHER (Ringwood).—*Forage for Bees.*—We know of few really valuable early flowers suitable for sowing in large quantities or for supplying bees with sufficient forage to enable them to store surplus in appreciable quantity. A row or two of *Limnanitus Douglasii* is about the only one we advise for your purpose beyond the white clover.

F. W. C.—1. The address you inquire for is "Signor Car. Luigi Sartori, Etablissementa de Apicolture, Milan, Italy." 2. None we know of.

A. B. (Chester).—Bees sent are Ligurian-Carniolan hybrids. 2. In pure Ligurians the three upper segments of the abdomen are yellow in colour.

Editorial, Notices, &c.

THE FOUL-BROOD QUESTION.

Much has lately been said and written about foul brood, and although we do not like to interfere with the free expression of opinion of our correspondents, it being quite understood that we do not hold ourselves responsible for the views expressed by them, yet the subject is of sufficient importance to induce us to clear up a few points which might puzzle and perplex the general bee-keeper. We have recently heard much of the so-called McEvoy method of curing foul brood, which has also been from time to time alluded to in our columns. Perhaps our readers will not be surprised to learn that not only is this method not new, but practically the same principle has been in vogue for nearly 130 years, and although Professor Cook recently claimed it as Quinby's discovery, we find Shirach in 1769 advocating it as a cure for foul brood. Not only the method, but the theory upon which it is based, viz., that honey carries the infection, is almost as old. Mr. McEvoy differs from others only in this, that he asserts honey to be the *only* source of infection, whereas those who have gone before have stated it to be one, amongst other, means of infection. With this view they adopted more drastic measures to induce the bees to use up all the honey, and to prevent a particle of it from being used for brood-feeding, than does even Mr. McEvoy, for the bees, after having been deprived of all their combs, were subjected to starvation, and any combs built were again and again removed. Dzierzon relates how repeatedly the disease broke out even under this treatment. Mr. McEvoy does not consider it necessary to disinfect hives, although it has been fully proved over and over again that the disease will break out in such hives. Not being a scientist himself, Mr. McEvoy complacently sneers at science.

We were, however, sorry to find our friend, Mr. Wm. Woodley, also holding up scientists to ridicule, although he quotes both Dr. Howard and Mr. Mackenzie in supporting his views. But are not these gentlemen scientists? And why should their opinions have greater weight than those of others? Although Mr. Woodley admits that foul brood is a contagious disease, he does not "think that the spores of the disease can possibly be wafted about by the fanning wings of the bees," otherwise "every cell containing brood must become diseased." We ask, Why should this be so? Not every one in a house has fever because the fever germs are floating about, and in the same way it is not necessary for every larva to become diseased. With bees, just as with human beings, the weak and those whose vitality is impaired are the first to succumb, and it is quite possible for the more robust to withstand the disease altogether, even though they are surrounded by it. To an unbiased scientific mind, the experiments of Dr. Howard and Mr. Mackenzie do not prove by any means that the spores are not carried about. They simply show that in a moist chamber, where the air is quiescent, under conditions entirely different to those which obtain in a hive of bees, spores are not thrown off into the air. They seem to have overlooked the fact that bees do attempt to clean out the cells and remove the dried-up matter containing the spores; that they do also try to remove diseased larvæ; and that both these and the refuse from the cells, in small particles, are allowed to drop on the floor-board. We have abundant proof that spores capable of germinating are found in such places. Mr. Woodley says that the experiments of Mr. Mackenzie "confute the often-expressed notion of bee-keepers—and generally received without question—that chilled brood is a veritable hotbed for the germination of foul brood spores." Is there not some mistake here? as we can hardly suppose our correspondent is not able to distinguish between a medium for the propagation of the disease, which is usually admitted, and a hotbed for the germination of spores. That chilled brood is capable of being infected, Mr. Mackenzie has shown, and our own experiments have convinced us that *bacillus alvei* may exist in chilled brood in company with septic bacteria. That the spores did not spread to other cells is no proof that they would not have done so under different circumstances, or under such as exist in an ordinary hive. Then, again, Mr. McEvoy, supposing that the infection is only in

the honey, if no honey has been spilled, does not even think it necessary to disinfect the hive; but there is abundant evidence to show that this disinfection is absolutely necessary.

We remember many years ago a gentleman purchasing, at a sale by auction, for a few shillings, a disused "Nutt's collateral hive." Our friend thought he would like to have some bees in it as a curiosity, and, after having well-washed it, a swarm was introduced; but the bees did not seem to get on, and when examined, they were found to be suffering from foul brood. To prevent further trouble the whole lot were destroyed. Will our correspondent tell us how foul brood was produced here, because there was no question about any honey being in the hive?

That *bacillus alvei* is found in adult bees we have ourselves been able to demonstrate, and we have mounted slides of the blood of workers, drones, and queens showing plenty of *bacilli*. Dr. Howard says he has not had the material to verify these statements, but he assumes that *bacilli* do not exist in adult bees. Scientists do not pretend—in the present knowledge of science—to *radically* cure the disease. Until something is discovered that will destroy the spores without killing the bees, they know that so long as the spores are to be found in a latent state, when these are brought into contact with a suitable medium they will germinate, and their remedies are based upon this knowledge. It is known that in the presence of certain substances *bacilli* cannot exist; but to kill the spores the drugs used would have to be of such a strength that they would also kill the insects. Therefore all that is attempted is to render the environments unsuitable for the development of the bacteria. Also by removing everything that tends to cause weakness, or impairs the constitution of the bees to enable them to resist the disease. When bee-keepers are intelligent and are careful they can prevent the malady from spreading; but it is the careless and the wilfully obstinate who are a danger to the community, and it is to protect themselves against such that bee-keepers seek for compulsory powers to deal with the disease. We would certainly not wish to dogmatise, but we are induced to think that Canadian foul-brood can hardly be of the same virulent type as ours if it readily yields to treatment that has failed in Europe.

BRITISH BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

In view of the importance of the business coming before the annual meeting, to be held at 105, Jermyn-street, on Thursday, the 21st inst., we are hoping to see a largely increased attendance of members, and it will facilitate matters if those who have resolved to attend would send a post-card to the secretary, Mr. Huckle, who, if the need arises, will be enabled to provide the necessary accomodation, both at the meeting and the usual quarterly conversazione which follows.

The Baroness Burdett-Coutts, president of the association, has intimated her intention of being present, and will take the chair.

BERKS BEE-KEEPERS' ASSOCIATION

The annual meeting of this Association was held at the Queen's Hall, Reading, on the 30th ult., between sixty and seventy members being present, Mr. W. Carter in the chair. The report and balance-sheet, read by the hon sec., having been unanimously adopted, the officers for the year were elected. Mr. A. D. Woodley was re-elected hon. sec., with Miss Egginton as hon. financial secretary. In returning thanks for re-election, Mr. Woodley remarked that this completed the twelfth year of his official connection with the Association, and Miss Egginton made the ninth hon. financial secretary he had had as a colleague. Mr. John Simonds was elected hon. treasurer, and Mr. Frank Cooksey as hon. librarian. The election of a representative council brought this part of the business to a close. Mr. Frank Cooksey then, on behalf of the Association, presented Miss Carr-Smith with an illuminated address as a slight recognition of the valuable services she has rendered to the association during the four years she has acted as honorary secretary. Mr. Cooksey referred to the loss the society was about to sustain through Miss Carr-Smith's departure from Reading. It gave him pleasure, however, to state that Miss Egginton had kindly consented to undertake the duties of the office which Miss Carr-Smith had so well filled. Mr. Darby, on behalf of the Windsor district, testified to the great help Miss Carr Smith had rendered to their branch of the society, and expressed his regret that she was leaving them.

The Rev. H. Carr-Smith briefly returned thanks on his sister's behalf, expressing her appreciation of their kindness, and wishing the society every prosperity.

The address, handsomely illuminated, and with the Berks Bee-keepers' Association honey badge tastefully introduced, was mounted in

an oak frame, and was the work of Mr. W. S. Darby, hon. secretary of the Windsor district of the association.

The meeting then resolved itself into a social gathering. Tea having been served, Mr. Flood gave a short address on practical bee-keeping, illustrated by lantern slides, after which Mr. Woodley spoke on the foul-brood question, and the following resolution was carried unanimously: "That this meeting of Berkshire bee-keepers most heartily endorses the action of the British Bee-Keepers' Association in their efforts to obtain legislative powers to deal with this foul brood among bees." Examination for third-class experts certificates:—The University Extension College have promised to provide accommodation for the examination to be held in this centre.

B.K. ASSOCIATION FOR SUSSEX.

Those who have so energetically moved in this matter are not relaxing their efforts, but we should like to see Sussex bee-keepers alive to the importance of *prompt* action. Time is moving fast towards the season for activity among bee-keepers, and in the short intervening period not an hour should be lost. It is of great importance to have at least the nucleus of an organisation formed early in the year, else the laudable desire of the Kent bee-keepers to make a big display of honey and honey products at the Tunbridge Wells show in July will be seriously discouraged if Sussex is slow to move. Who will come to the front as organising secretary?

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

AMONG THE BEES.

"FOUL BROOD."—BRACE COMBS.—AMERICAN MIXTURE.

[2213.] I was not only sorry, but surprised, at the contents of Mr. Hopkins' letters (No. 2157, p. 4, and No. 2190, p. 29), as knowing that gentleman personally I could not bring my mind to bear to think that he should conscientiously assert that compulsory powers in the case of both Contagious Diseases Acts (humans and animals) had had little effect; true, they have not *eradicated* any disease, and while there is that constant interchange of both humans and animals throughout the world, there is little likelihood of any disease being perfectly eradicated. That is not the question, and I ask him: Has not both of these acts very materially lessened the effects of contagious diseases in this country? In my time I can remember that when there was an outbreak of some infectious disorder in any locality, it continued until it seemed to have exhausted itself simply by claiming all the victims that were amenable to its clutches. But is it so now? Remember the very serious outbreak of foot-and-mouth disease in London but a few months ago; it was stamped out in a few weeks. How? By compulsory measures. Have we not seen the same thing occur over and over again?

I cannot possibly see how any one having a colony of bees affected with "foul brood" can have the—shall I say?—"cheek" to ask for compensation. Why, I'd sooner be without the bees, much less place a value on them. A colony so affected is not only valueless, it's a deal less than valueless, if there can be such a condition of things. I know it's hard for the poor bee-keeper; so it is if he loses a child. Yet he has to overcome his disappointment or grief. It is simply the result of circumstances, of which we all have to bear our share; goodness knows I've had mine. But is his loss not his gain? If there were no act which would compel the destruction of his bees, would he not still go on year after year labouring and bearing anxiety for nothing. I've seen it so in scores of cases. The destruction of them would save him all this, and would at the same time save perhaps hundreds of others from experiencing the same anxiety and loss. We do not legislate for the individual; that would be wrong. Legislation is for the masses, high and low, rich and poor. Some say it's a "bit tight" on the latter. But, there—this is not a political Journal.

Brace (burr) Combs.—Yes, "W. R. N." (2182, p. 24); I like to see burr combs on the frames when I put up my bees for winter, it saves a heap of trouble and "fiddling" about, making or forming winter passages, and it also saves a lot of bee life, as I don't know hardly anything more irritating to the bees than scraping these off at late autumn—the little beggars will sting, and so lose their lives. Of course, it is best to remove them in spring, so the section racks or supers fit down nice and tight and level.

American Mixture.—Now, Mr. Davenport, what's the use of your writing repudiating a knowledge of this wonderful (mythical, I think) "American mixture"? No one, I should think, who knows anything about you supposes that you were the "expert" (!) As I

trespass on your ground a bit at Bromsgrove, perhaps it was I. I know that I have a very big "bacea" pouch (one bee-keeper up in Cheshire calls it Webster's "portmanteau") very often filled with American mixture, but I'm a lot too selfish to give that to the bees, except as smoke.—W. B. WEBSTER, *Binfield, Berks.*

"HINTS FOR DISCUSSION?"

[2214.] Hitherto one of the pleasures afforded me by your valuable journal has been the perusal of Mr. W. Woodley's bi-weekly "Notes by the Way," feeling sure that something of more than usual interest will be found there, but I am constrained to say that, after reading what he terms, "Hints thrown out for discussion" (2205, p. 43), I could hardly believe that so practical a bee-keeper would have fallen into so many errors, or given utterance to so contracted a view of the important question with which he deals. Nor can I even now understand whether Mr. Woodley's view of the question is from his personal knowledge of the subject, or whether he is quoting the ideas of some theorist who has had no practical experience of *Bacillus alvei* at all!

Surely some one should point out to Mr. W. that the data upon which he has founded his remarks is unsound, and in very many respects erroneous and misleading. I do not pretend to pose as a scientist, neither do I wish to criticise Mr. W. in any but the most friendly spirit, but it appears to me he has overlooked some of the most simple elements of scientific bee-keeping, and has, moreover, got so mixed up that a small volume would be required to put him right. He shows no acquaintance with the nature and uses of tests for acidity or otherwise, of the unstable mixture which figures largely in the composition of brood-cell caps, of their porosity, or of their liability to rot and form part of the medium of propagation when covering the contents of a diseased cell. Mr. W. also ignores the infectious state of the atmosphere in and about a foul-broody hive, and how the spores themselves are breathed by the very inhabitants of the hive, to say nothing of the well-ascertained fact that the bacilli have been found in crowds in the blood and tissues of adult bees (queen, worker, and drones alike), that they have also been found in the ovaries of queens, and in the eggs laid by diseased queens. In fact, he speaks at random—not to say wildly—in casting aside or ignoring the work of such eminent scientists as Hilbert, Cohn, Watson-Cheyne, and Cheshire, which has incontestibly proved many facts connected with the disease, and which Mr. W., without sound reason, casts aside to talk of "glutinous, dried-up masses," &c., and as proof of the theory he propounds quotes to us what some one else says.

I cannot but think that Mr. W. has inadvertently strayed out of his depth and into the region of fancy, and, therefore, draw a curtain over this portion of the "hints thrown out for discussion," and pass on to the next, viz., "compensation." Mr. W. suggests that this should take the form of "kind," not cash. Does this mean healthy stocks for each of the diseased ones destroyed? If it does, I should say the owner of the latter will get the best of the bargain by a very long chalk! Seriously, though, this can surely be no fair equivalent? Why, sirs, one healthy lot of bees would, in my opinion, be ample compensation for a rather large number of diseased stocks. If this sort of compensation be allowed, we shall have to tabulate diseased stocks according to the *quality* and *quantity* of the disease.

I also notice that some of your correspondents seem to think that inspectors are to be allowed to sink, burn, and destroy every stock having a taint of the disease. But surely these alarmists ought (like myself) to attach some value to the assurances given on pages 481 (Vol. xxii.) and 22, that nothing like this is intended. As I understand the matter, only badly-diseased stocks, or those kept by notoriously careless bee-keepers, will be immediately destroyed, for the sake of those whose bees are in danger from proximity to the diseased ones. There is one section of bee-keepers, however, to whom the inspector would be a veritable blessing, viz., the well-meaning, but inexperienced, members of our craft, who know little or nothing of the economy of the hive, and in whose cottage apiaries I have spent many happy hours endeavouring to impart all I know of bees to their darkened but willing minds; and how amply have I been repaid by the eagerness with which they take in all I strove to inculcate. To such I again say, the "inspector" will be an ever-welcome visitor. I don't think it is very generally known how many bee-keepers there are who don't know foul brood when they see it. A few days ago I was favoured with a view of a large piece of comb taken from a hive in which the bees had died, and sent to an experienced hand for his opinion "whether he thought it was a case of foul brood," and asking "if he might give the honey found in the combs to his other stocks in the spring." I examined this piece of comb, and though it was many inches square, every cell was full of foul brood, matter, and with cappings so rotten that the contents exuded and stained the wrappings through and through in great brown patches, but not a single cell-capping had been perforated by the bees, as is so often seen where they have attempted to remove the diseased larvæ.

Which, I should like to know, is the lesser evil—to destroy one diseased stock, or to let that one eventually be the means of permeating a whole district with the pest?

I hope your readers will lay well to heart the letter from Mr. Halterman on page 41,

and that of "South Devon Enthusiast," page 45—more power to the latter, he is one of the right sort, whoever he may be—and we shall hear then less of the weak arguments put forward in opposition to the good work the B.B.K.A. have taken in hand.—HENRY W. BRICE, *Thornton Heath, Surrey, February* 2.

SHALLOW FRAMES FOR EXTRACTING.

[2215.] Your correspondent "Agricola" (2197, p. 35) asks the opinions of readers concerning shallow frames for extracting. My opinion of them is that they are a "fad." I have raised honey in every way known to myself, including skeps, bar frames, standard and shallow frames, sections, bell glasses, &c., and I find my ideas (after being a faddist) as they were when I started bee-keeping several years ago. I started with reading Cowan's Guide Book, which I admire, adopted the "Cowan" hive, with the same method of storifying, and, after wandering to shallow frames, with $\frac{7}{8}$ to $1\frac{1}{2}$ in. top-bar, &c., I shall stick to the plan my old "Guide Book" taught, which, according to my experience, cannot be beaten. I have twenty-two stocks myself, but I have to look after about fifty stocks altogether, which has given me a chance to satisfy myself. I have about 300 shallow frames of comb, but they will soon be a thing of the past with me.

The fixing of a standard frame is a benefit to bee-keepers in general, and the bee-keeper will find it to his benefit to stick to the standard all through his apiary. I find it a great advantage to be able to use soiled combs of my supers in the brood-chambers; useful also in starting stocks, swarms, and nucleus; less attention required to supers, and the larger amount of honey to the amount of extracting, &c. By using the shallow-frame in this district we get them sealed over one week earlier. This is the only advantage which I can get from them. Without them I can get my honey in time for show purposes. As to query No. 2, I can say nothing, as "metal ends" are also a thing of the past with me; I space the combs to the requirements of the bees; they are to me a fad. Query No. 3. I find no fault with an out-and-out "Cowan" hive, but at the bee-keeper's discretion he can have the outer and inner cases of the brood-chamber combined; making it single-walled back and front. I have some hives like this, but in all cases I have the super separate from the outer cases. I think this has many advantages. The bee-keeper can take his honey with much less loss of bee life when robbers are about; and are less to handle, &c.

These remarks are from my experience. If they are any value to "Agricola" or any other bee-keeper, they are there with my best wishes. The foul-brood question: On my visits to bee-keepers about here, I find, whilst agreeing that something should be done to stop the careless spread of the pest, it is thought that the greater amount of energy should be given to find a sure reliable cure. And I am sure all bee-keepers are indebted to the Rev. Mr. Bancks for his experiments, and I trust victory will crown his efforts, which he has so kindly let the readers of your excellent journal have the benefit of.—THOS. J. HORSLEY, *Wolverhampton.*

BASIC SLAG AND BEES.

[2216.] Although not connected *practically* with the apiarian industry, I am yet much in sympathy with this branch of rural life, and feel, moreover, great admiration for those who are now endeavouring, often quite disinterestedly, to promote the production of first-class honey, and to demonstrate that this comparatively insignificant department of agriculture may still be a source of no mean profit to those who acquire the necessary scientific and practical knowledge to enable them to utilise the improved appliances and conveniences so essential to modern bee-keeping.

The county of Durham is not, as far as I am aware, especially celebrated as a bee-keeping centre; still I have observed in my numerous visits amongst the Durham farmers that the industry is by no means neglected. A very considerable area of the land in the county has of late years been more or less heavily dressed with the phosphatic fertiliser basic slag or Thomas phosphate, and the soil is of such a nature as to respond very readily to its application.

The chief manurial constituent in slag is phosphoric acid, of which the material may contain as much as 19 per cent.; but an ingredient of no small importance is lime in various forms, which may be present to the extent of about 40 to 50 per cent. The effect of this latter substance on the growth of clovers is well known, and in county Durham the application of basic phosphate to grass-lands has frequently been followed by an extraordinary development of the clover herbage, so much so as to create a conspicuous white carpet of clover on land where previously it was scarcely known to have existed. One can well imagine that when any considerable acreage in a district has by this means been made to produce such a quantity of clover the occupants of the hives would find a greatly increased supply of food at their disposal, and would proceed to accumulate larger stores of honey. That such is the case I am informed on excellent authority, and this already popular fertiliser will not suffer in consequence. Unfortunately, I have not as yet been able to collect any reliable figures which would demonstrate the actual pecuniary gain to neighbouring bee-keepers, but am hoping to do so, and should like to place them at the disposal of your readers.

The effects produced by lime on the growth

of plants would appear to depend very much on the state in which the lime exists when applied. In basic slag it is, or should be, in the form of an extremely fine powder, and would therefore be enabled to become more thoroughly incorporated with the soil particles. It must further be allowed that in all probability the phosphoric acid in the slag is not inoperative in influencing the clover growth.

Basic slag is not, however, the only manure which materially affects the growth of clovers, for kainit also possesses this property in a marked degree. This fertiliser is valuable chiefly on account of the potash it contains, and where this essential constituent of plant food is not naturally supplied in sufficient quantities, the application of kainit is invariably followed with good results.

Potash and lime are the great clover developers, and it is not difficult to see that certain artificial manures may, in the manner above indicated, contribute markedly to the profits of bee-keepers.—FRANK O. SOLOMON, *The Durham College of Science, Newcastle-on-Tyne, January* 28, 1895.

WHAT IS FOUL BROOD?

[2217.] Though a letter of mine appeared in your journal a week or two ago on another subject, I must say a word or two to tell you how much I appreciate your efforts in trying to stamp out "foul brood." Bee-keepers who have not experienced it do not seem to be able to take in its nature. A medical man and a bee-keeper asked me a few days ago, "What is foul brood?" Having about thirty years ago experienced it myself, I could tell him exactly what it is, and what I saw. I was living in the outskirts of Edinburgh. I had a large hive, with twelve or fifteen frames, in a room, the bees going out by an exit under the window. I wished to prevent swarming by dividing the hive by a close-fitting dummy into two parts. The result was that the bees mostly joined the half where the queen was. The brood in the weaker end got chilled, and, whether from that or from outside influence, "foul brood" set in in a most malignant form. At that time I did not know much about the disease, but I took away the diseased combs. I could smell the hive some yards from it. Disease soon commenced in the other half, and, as the bees became less and less in number, I put them into a one-combed observatory hive, and was in this way able to see all that took place. The remaining bees, when all were in, covered a space of 6 or 8 in. diameter. During the day, when most were out, the bees covered a space of 5 in. diameter, and the brood-nest was 3 or 4 in. in diameter. The grubs, as far as I remember, became diseased about the time the cells were sealed. The poor queen wandered about by herself from one side to the other of the frame, trying, no doubt, to find a suitable cell to lay in. There was, however, scarcely a healthy bee in the cells. A very scientific bee-keeper asked me to give him the hive, his object being to cure the disease, but in a day or two the queen was put out by the bees themselves. This ended the matter. From what I saw I should say that it would be impossible to cure a diseased stock, and it is only enlarging the circle of disease by allowing the hive to exist a single day. On a small scale it is as bad as cattle plague, which created such a sensation in the country. Owing to the small value of a hive of bees, getting a satisfactory bill passed in Parliament will be very difficult to accomplish, but, nevertheless, the necessity is great. The more bees that are kept in the country the greater will be the increase of disease.—T. M. C., *Blackyett, Kirtlebridge, N.B.*

TO DEVONSHIRE BEE-KEEPERS.

[2218.] The present principal of the Exeter Training College is a skilled bee-keeper, and it is a pity his absorbing duties prevent all possibility of his lending active aid in matters affecting the prosperity and advance of bee-keeping in Devon. I know he wishes well to county bee-keepers. It is really a disgrace—no, perhaps that's too hard a word—say, a "loss"—to Devon that (to quote an energetic Axminster bee-keeper's own words) "no one is found to take the matter up." I wish there were more of his sort. It is of the utmost importance that Devon bee-keepers should be promptly "marshalled" as a Devon B.K.A. Where are the "enthusiasts" in Devon? I see one signature on page 46 of your last issue, a "South Devon Enthusiast." Cannot we persuade him to set to work at once?—BEE-DUN.

FOUL BROOD.

[2219.] As this dangerous question has of late come into the first line of combat also in England, I will try and add a little brick to the fortress wall against that formidable disease by giving my view of the case. If it does some good, it will only be a very small return for all the valuable knowledge I have found in your journal for many years past.

Some twenty years ago a very bad disease attacked the vine in France and Italy. It was caused by a very little louse that attacked the root of the plant—so thought the wine-growers and the scientists, and thousands of remedies (drugs) were applied to destroy those myriads of lice, but all in vain. Year by year grew the plague as long as the war was directed towards the innocent insect, which only fulfilled its destiny when it destroyed those *degenerated vine plants*. When the *true cause* of the calamity was discovered, and the vine-growers began to strengthen the plants by introducing foreign varieties of vine and better cultivation, then the attack of the *phylloxera* was lessened. I have applied this lesson to

foul brood among bees. Is it possible to destroy the myriads of *bacillus alvei?* I think not. Therefore let us try to strengthen our bees so that they may be able to meet the attack of those microbes. If this is the correct view of the case, then the remedies are obvious. (1.) *A far greater number of drones* in our colonies than we modern bee-keepers of late have permitted to see the light. (2) *The exchange of bees* among bee-keepers that live many miles apart (the farther the better). (3.) *Introduction of foreign bees.*

And now, I think, you will ask me, "How have you arrived at that conclusion? Is it a mere theory?" No, it is an experience with my own bees. For twenty-three years I have kept bees, but I have never had foul brood among them, though the disease has raged very near my apiary, and infected combs have been sent to me for examination more than a hundred times. But I have never been hard on the drones. At first I had a feeling of some wrong in it, and later on I thought it was not prudent. For the last eight years I have every year introduced Italian or carniolan queens among my bees in order to infuse fresh blood. Certainly, this single instance is very little to found such a theory upon, but in trying the experiment and following my advice for a few years you run only a very slight risk. I conclude with the best wishes for the welfare of British bee-keeping.—H. ERSLER, *Editor of "Danish Bee Journal."*

EXTRACTING WAX.

[2220.] Referring to 2193 (p. 30), I must apologise to Mr. Leigh for delay in reply, which was unavoidable. Now, however, I beg to say I extracted last season's wax about a fortnight since, and tried another plan this time, viz., tying a piece of muslin on the bottom of an ordinary saucepan-steamer. I next about half filled the saucepan with water, then filled up the steamer with comb, &c, placed on the fire, and boiled until all wax was extracted, replenishing the steamer with comb as the latter melted down. When all is done, remove saucepan from fire, and when cold you can remove wax in a lump, while all refuse is left in the steamer. This method proved to me of less trouble than Mr. Leigh's plan, which I tried last year. Of course either plan would suffice for a small apiary, but if I were running a larger one I should prefer a wax-extractor, irrespective of the expense.—BUZZING, *January* 24, 1895.

COMPENSATION IN "KIND."

[2221.] I write to say "Hear, hear" to Mr. W. Woodley's suggestion that compensation should be paid in "kind," not cash. I almost think this is the best suggestion I have seen with regard to this matter. My bees all on flight on January 20.—NED SWAIN, *Fordwich, Canterbury, Feb.* 2.

HONEY AS A CURE

FOR CHILBLAINS AND CHAPPED HANDS.

[2222] I wish to thank your correspondent, "A Lady B-e-ke-per," for the information contained in her interesting letter (2203, page 38). My wife having read it (for being a bee-keeper herself she eagerly reads the B.B.J.) resolved to try what effect honey had upon her chilblains and chapped hands. Happy to say the honey gave great relief.—PERCY LEIGH, *Bromsgrove, Feb.*

THE FROST AND THE FLOWERS.

[2223] On the shortest day, December 21, I gathered a fine bunch of that beautiful flower called Christmas rose (*Helleborus niger*). Primroses and polyanthus were unusually precocious. Many yellow buds, set in a ruff of tender green—winter aconites—bravely looked out upon a damp, dead, bee-less world—dead in comparison to the other seasons, I mean. Still a blue flower of veronica, daphne opening, yellow sprays of jasmine, which open out beautifully in a room; great fissures in the earth where snowdrops struggle, and daffodil leaves prophesying of more April days.

But a rude barbarian frost came and set his heel on the struggling things of the earth, withered the gleaming verdant moss on the wall, sent up the price of coal, and set us to look for our skates, which had been mislaid. There was snow and hoar-frost—beautiful to us, but hard lines for blackbirds and robins—and through it we made tracks to nearest pools, to skim and glide and tumble down and make stars; to get thirsty and stiff and benumb our extremities—which includes noses, of course—yet, like boys, to declare with enthusiasm that we had not had half enough—soon forgetting the flowers, you see. Half Birmingham were upon the ice, most of them for the first time, judging by the way they skated on their ankles. It was the kind of ice Mr. Winkle would have been at home upon—no necessity to purchase Sam's support with jackets. It was rough and rutty, and could only be enjoyed by following devious paths cleared of snow, paths with acute angles and frozen snow edgings, upon which you might sit till melting snow told you it was time to be up and doing. Late one afternoon two swans (of infinite grace when swimming, but finite grace when flying) fled over the struggling mass of humanity and seemed to have crude ideas of settling. Seeing, however, so many men racing without visible purpose, they thought better of it, and fled away to fresh fields of air and frozen pools new, and I went home to my homely meal of hot milk, bread and honey; simple fare, but better than a table groaning under all sorts of delicacies, which ultimately make us groan too! Milk, bread, honey. Who would not wander forty years in a wilderness for these, and who would not wander forty minutes anywhere for mince-pies and plum-pudding? Ugh!

The frost tightened his grasp until the bitterness of the outside world made us love the half-forgotten miner, the poor abused coal merchant, and quite love the long-suffering noble horse who dragged the coal to us over roads made of ice. We offered to make the willing animal a bran mash; but the driver—hard of heart—declared "He didn't want no bran mashes; give I a jug o' beer, governor, an' I'll bran-mash him when I gets him i' the stable." So we feasted (not with a bran mash) the black fellow-creature who came to wheel it in, and I fully believe that, could he have made that ton and a half into two tons, he would willingly have done so! The fiendish frost gripped harder and harder, till on January 12 it was positively murderous. Hard lines for any living thing out that night. The sword-wind cut and hacked at the trees, and shrieked and blew as though some Saxon Zernebock had escaped from some old Norwegian stronghold, and was thus let loose upon the world. Snow, fine as salt, drifted through bee-hive ventilators, under slates, under castle and under cottage doors, whether the abode of the humane (?) frame-hive man or the brimstone pittite. No respecter of persons, you see. The wind sifted it into heaps till it lay in given figures of Euclid—words traced on the Kindergarten system by nature, and so few to read or understand! Our girl—maid of all work and chiefly bread and lard—having no enthusiasm for perfect lines and curves, at any rate as exhibited in drifts of snow under the hall door (snow, perhaps, reminded her of starvation), swept it all away. Snow half-way up the doors, and completely obliterating the landscape of the garden, so that we wondered which was the Alpine rockery and which the paths, or whether we were dreaming, and these were the mounds of the golden dustman of Harmony Jail, with Silas Wegg prodding for codicils of wills. Our doubts, however, were soon over when by the sweat of our brow we had dug ourselves out, and made a fosse and snow-work that Romans might have envied. Snow and rain limited are beautiful, either *en masse* (the former only), or in little bits under the microscope (if the latter—rain—is fresh), and, indeed, it is well to read the delightful works of Tyndall and Huxley about such things. Do not, however, read only. You may read a book on "How to Skate Gracefully," yet will not be able to understand how it is done then! To really appreciate the magnitude of the forces of Nature, you yourself (the gardener will not do!) must take a spade and move a few tons of snow off the garden-path, then wipe the sweat off your brow and think of the weight of what there is lying, say, between here and Helvellyn! Also, while you are about it, remember the miner, the navvy, all those that live by the sweat of their brows, and thank Heaven you happen to be not of that ilk!

The snow seemed to overpower Birmingham. Thick it lay in the principal streets as in any disused country lane; and having the same antipathy to slates as myself, it took the earliest opportunity of sliding off into the street—miniature avalanches, where it immediately became dirty and unpleasant to look or walk upon. The citizens of that forward place thereupon spent £1,000 a day in labour to cart it away. They met one another and said "Good-day! Rough, but seasonable, isn't it?" Whether the bees, half-buried alive, thought it seasonable, I cannot say; or whether they lived in happy memories of the past or hope for the future, or if they thought at all, we do not know. There they were, and if they had all been under zinc-roofed hives there I would have left them. But many were not; so, as it was thawing, there was nothing for it but to dig another fosse, and make another rampart in their direction. This I did with much sweat of brow, rescuing them from an ice-watery grave maybe; and when I saw the snow melting in at entrances, through guaranteed watertight roofs, behind plinths and porches, I mentally resolved to improve away some of these things, if I do not forget when more seasonable weather comes; for certain it is that we do forget many good resolutions when good old King Sol returns and digs out for me and the bees my snowdrops, crocus, aconites, snow-glories, and, best of all, daffodils. With the blue-bells in the wood I shall forget that there ever was such a thing as snow, or a time as January 12, and the hives will seem good enough to keep out April showers.—LORDSWOOD.

"COMPULSORY POWERS."

A well-known and reliable authority writes, under date January 31:—

"I am sorry to read, in your issue of January 27, that no report *re* the above has been sent in from our county. I know of several cases of foul brood which, if not taken in hand quickly, will cover the face of the county, as it has done in Cambs. In the near future, unless compulsory powers are granted, I see the disease rampant in this, which has hitherto been an exceptionally free district."

Echoes from the Hives.

Honey Cott, Weston, Leamington, February 1.—What weather we have had since the new year commenced—snow and frost, wind and floods (thought I am happily out of the reach of the latter). I have had about 2 ft. of snow up one side of my apiary, and shall be glad to see a change for the better, as the bees need a fly very much, seeing there has been no

chance for them since the latter part of last year. I find some stocks have lost more bees than I like to see, but must hope for the best. —JOHN WALTON.

METEOROLOGICAL SUMMARY.

JANUARY, 1895.

Locality, Stoke Prior, Worcestershire.

Height above sea-level, 225 ft.

Rainfall, 1·89 in.; greatest fall in 24 hours, 0·50 in. on the 12th.

Rain fell on nineteen days, including nine days on which snow fell.

Max. shade temp., 43° on 16th; max. for January, 1894, 53°.

Min. temp., 10° on 26th; min. for January, 1894, 9°.

Max. shade temp. at 9 a.m., 40° on 18th and 22nd.

Min. temp. at 9 a.m, 17° on 26th.

Frosty nights, twenty-five; during January, 1894, seventeen.

Max. barometer, 30·233° on 30th.

Min. barometer, 28·78° on 13th.

Very severe weather during the month. Some sharp frosts. On the 10th the temperature did not exceed 23°. Snow upon the ground quite three-fourths of the month. Some intervals of bright sunshine, causing the bees to take a flight, notwithstanding the entrances were carefully shaded, and so perish. Defunct stocks reported. Biting winds from the N.E. A falling barometer at the close.—PERCY LEIGH.

REVIEW OF CONTINENTAL BEE-JOURNALS.

BY J. DENNLER.

At last, after a long interval, I am again able to give you a review of the continental journals. I must ask you, as well as your worthy readers, to excuse my long silence, which was, however, quite involuntary on my part. I hope I may be able to send you my reviews more regularly in future. I now begin with the

Bulletin de la Société d'Apiculture d'Alsace - Lorraine. 22nd year. Editors, Dennler and Zwilling.—*A Disputed Question.*—M. Kuntz, the well-known proprietor of the hotel at Hohwald, writes respecting conifer honey:—"How do bees obtain it? This question is not yet settled, and some persons, even bee-keepers, who are not very precise, declare it to be simply *aphis honey* or honey-dew! I entirely agree with the Abbé Voirnot. I say that the bees do not forage where there are aphides; I never saw my bees collecting anything either in 1884, 1887, or 1892, on my lime trees, which were then covered with honey-dew and aphides. Nor did I see any in 1893 on the small pine trees at the entrance of my garden, which were covered with myriads of aphides. I never found a single bee there, a fact also observed by Messrs. Cowan and Bertrand last summer during the visit with which they honoured me. For forty colonies of bees to store 3,800 to 6,000 lb. of honey as they did in 1892, one must see them foraging. In going into our pine forests in 1884, 1887, and in 1892, a loud and constant humming of bees and other insects was heard high up in the tops of the highest pines. In 1893 this music was not heard, but there was abundant honey-dew with legions of aphides, and while I left my bees no honey for wintering, my fifty-three hives only gave me 1,016 lb. of honey. My conviction, until the contrary is proved, is that the bees do not gather the honey-dew ejected by the aphides. In order to verify the gathering of conifer honey in distinction from aphide honey, it would be necessary to place ladders against the pines where the humming is heard and there make the observations.

"As you are aware, doctors, with very good reason, discountenance rearing infants with feeding-bottles, but M. Forester Dietz, who is an enthusiastic bee-keeper, has had his infant son, now aged seven months, reared entirely with the bottle which contained milk sweetened with honey. The child has already consumed 25 lb., and is strong and plump, has never had a single pain, and sleeps soundly the whole night. At first the child received half milk and half honey liquefied with water, now he has four parts milk and one part of honey liquefied with water."

Honey Preserves.—M. Perin, of Metz, writes:—"Like most other housewives do at this season of the year, my wife proceeded to make her annual preserves. Bearing in mind the large amount of sugar used for this purpose, the idea occurred to me to substitute honey instead, and with this object in view I made a trial on a small scale. I first melted 200 grammes of old honey in a saucepan, then I asked my housekeeper to spare me 400 grammes of gooseberry juice, which I mixed with the honey. This was boiled on a slow fire for half an hour, care being taken to skim off the froth. I then took it off the fire, and poured the preserve thus made into glass jars, when in due time it became a jelly. It was then tasted, and two of my youngest children, after partaking of it, found it to their taste, and much superior to that produced with sugar. I am also of their opinion. The slight persisting flavour of honey is not at all disagreeable. Next year, however, we do not intend to make any other but honey-preserves. I do not know if this experiment has been tried before, but, at any rate, for me and my friends, to whom I have spoken about it, this is quite a discovery."

Honey and Confectioners.—Our honey of Alsace-Lorraine does not ferment sufficiently, and for this reason our confectioners prefer Brittany honey. Wherein is the difference? Add pollen to honey intended for cakes and

confectionery, and it will ferment just as well as the other.

Bienenzeitung. 51st year. Editor, J. W. Vogel.—No. 2 contains sincere congratulations to Dr. Dzierzon, who has just celebrated the eighty-fifth anniversary of his birthday. This worthy and notable man was born on January 16, 1811, at Lowkowitz (Prussian Silesia).

L'Abeille de l'Aisne. Editor, Noblecourt. 3rd year.—"ROBBING."—Bee-keepers were particularly subjected to robbing during 1894, when honey was scarce. One of the causes of robbing is frequently the bad construction of the hives. All the robber-bees roam about the hives, and if they find an opening through which they can get in the harm is done. From a few in number they rapidly become a legion, and the fate of the robbed hive is not to be envied, unless prompt assistance is rendered; therefore, in the construction of our hives, let us carefully see to close-fitting of the parts rather than beauty in the hives, although the two together always produce the best results.

The Abbé Dubois tells us the following little story, which shows how greatly bees are excited by the odour of honey, and with what activity they carry it back to their hives:—"A worthy Canon of Soissons asked him one day to help him to take his honey harvest. He heartily accepted his friends invitation, and when all was finished he left. Next day he met the Rev. Canon, who approached him with a sorrowful look, and said, 'Alas! I am undone. I placed the honey we took yesterday in the attic, and as the casements were partially open the bees entered and have carried it all off again.'"

(*To be continued.*)

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. H. B. CATFORD (Axminster).—*Wasps' Nest.*—We thank our correspondent for his interesting description and photo of the embryo wasps' nest, which is that of *Vespa sylvestris.* These nests are very common in the spring, and are frequently found in skeps, hives, boxes, and other such places. They have been frequently alluded to in our pages, and have been illustrated several times. On page 168 of B.J. for 1893 there is an illustration of one attached to a frame. What were supposed to be eggs were probably the worms of a parasite, *Chrysis ignata,* which is very common, and lays its eggs in the nests of hornets, wasps, &c.

IGNORAMUS (Tongham).—1. Yes, bees work at all hours. As to their *seeing* in the dark, it is a moot point, but they can and do *work* in the dark. 2. Only give the artificial when natural pollen cannot be had in plenty. The time to start this form of stimulation is so soon as it can be had outside—generally in March. 3. Extractors should be kept in a dry place. 4. Hives should not have their aspect changed about either in winter or summer. 5. No one can say. 6. Your reason for keeping two queens in one hive is an unsound one.

D. L. P. (Dumbarton).—*Lantern Slides.*—The set of slides belonging to the B.B.K.A. may be hired on application to the secretary, Mr. Huckle, King's Langley, Herts.

T. J. ANTHONY (Craven Arms).—*Over-boiled Candy.*—To over-boil bee-candy means to spoil it, and there is no method we know for softening it afterwards. It should be used in syrup-food in spring. Great care and close attention to the directions are indispensable in making candy, which should be so soft as to be easily scraped into "buttery" consistency with the finger-nail. Use cream of tartar (not vinegar), and stir constantly while cooling.

T. ADAMS (Ely).—*Foul Brood Inspectors and their Powers.*—We thank our correspondent for his views, but if he will carefully read the proceedings reported on pp. 41, 42, and 43 of our last issue, his fears regarding purely meddlesome or unseasonable interference will, we trust, be dispelled. We have over and over again repeated the assurance that no such thing is intended. As to the need for obtaining powers to deal with foul brood, the report surely speaks for itself.

NOVICE (Herts).—Comb contains nothing worse than pollen, a little of it mildewed. There is now no bee association in Herts. Why, it is difficult to say, seeing how good a county it is for bee-keeping.

F. BRAMHALL (Sheffield).—*Candy-Feeding for Bees in Skeps.*—The only way is to cut a hole in crown of skep and thrust in a cake of soft candy, covering all warmly and securely, so that no bees can get at the food from the outside.

E. H. P. (N. Devon).—*Moving Bees in Winter.* Move the hives at once before the frost goes and no harm will follow.

F. V. HADLOW.—Our correspondent would quite understand our hesitation in accepting many bee-keepers' opinions as to foul brood, if he saw the many samples of comb sent to us as foul broody which have no trace of the disease, and *vice versa.*

A NOVICE (Cheltenham).—The frost has now lasted long enough to make it quite safe to move the bees 200 yards. Many thanks for your views *re* "compulsory powers," and for your appreciation of the efforts being made to eradicate foul brood.

ARTHUR A. RAYNER.—*Insurance against Loss through Foul Brood.*—We wish your suggestion as to an insurance-fund against loss of bees through disease had a reasonable chance of success, but we fear the subject is too *big* for any hope of its being carried through.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER :—So seldom can we expect to have weather conditions of so extraordinary a character to chronicle, as are now being experienced in all parts of the Kingdom, that we offer no apology for occupying space here in placing on permanent record, for future reference, some particulars the like of which do not occur often in a lifetime. Accounts occasionally reach us from abroad of abnormally low temperatures, quite foreign to "British" experience, but to have home reports of 40 deg. of frost, or 8 deg. below zero, and the thermometer in numerous places, for many days in succession, registering from 20 to 35 deg. below freezing-point, are indeed rare. These are, however, the weather conditions as we write, conditions which have caused the question to be raised in the press whether a lower temperature than that reported from Dunstable, Beds., on the 6th inst., viz: 8 deg. below zero, has ever been recorded for this Kingdom. A correspondent of the *Standard* settles the point in the following communication which appears in a recent issue of that Journal. He says:—

"The winter of 1860 was, perhaps, the coldest of which we have any record. On Christmas morning of that year the temperature at 4 ft. above the ground was 8 deg. below zero, on the grass, 13·8 deg. below zero, or 45·8 deg. of frost. In the *Nottingham Journal* of December, 1860, Mr. E. J. Lowe, of Highfield House Observatory, Beeston, near Nottingham, wrote as follows:—'I herewith send you a report of, perhaps, the most extraordinary cold ever known in England. . . . This morning (Christmas Day) the temperature at 4 ft. above the ground was 8 deg. below zero, and on the grass 13·8 deg. below zero, or 45 deg. of frost.' As the above extraordinary temperature may seem impossible, I herewith append the readings of a number of thermometers placed in different situations:—

1. Negretti and Zambra's patent mercurial minimum, 4 ft from ground—8·3 deg.
2. Rutherford minimum, 4 ft. from ground —8·2 deg.
3. Spirit thermometer on grass—10·3 deg.
4. Spirit thermometer on grass—10·7 deg.
5. Spirit thermometer on grass—10·8 deg.
6. Sensitive mercurial thermometer on grass—11·7 deg.
7. Sensitive mercurial thermometer on snow—13·3 deg.
8. Spirit thermometer on snow—12·8 deg.

The frost commenced on December 17, and continued with great severity till the end of the year. According to Mr. Glaisher, the mean temperature on the 25th showed the extraordinary amount of 32·5 deg. below that of the average of the forty-three preceding years—an unprecedented temperature in this country."

Returning to the present weather, we find between the night of the 5th and morning of the 7th the minimum temperature was reached, between which dates the lowest temperature reported was that from Dunstable, Beds., already mentioned. Then we have reliable accounts of 38 deg. of frost (6 below zero) in Kent, Essex, Yorkshire, and Norfolk, 36 deg. (4 below zero) in Surrey, Lincs, Cambs, Salop and Brecon, and varying degrees from zero to 20 deg. of frost in many other counties. In Devon and Cornwall the frost has been intense, rivers in the latter county being frozen over for the first time since the year of the Crimean War (1854).

In Scotland the mercury went down to zero in Nairnshire, and in many counties there the cold has not been so intense for the last forty years. Ireland, too, though not suffering in so great a degree, is experiencing a hard time of it, so low a temperature as 24 deg. below freezing being recorded in several places there.

It goes without saying that such adverse weather conditions as are briefly detailed above, will have aroused a very natural feeling of concern—not to say alarm—in the minds of bee-keepers, as to whether bees can withstand so terribly low a temperature for so many days in succession as we are now experiencing. The effect of extreme cold on bee-life is well known, it simply induces a state of torpor, from which only warmth can restore it to life and activity. We may therefore, be quite sure that a goodly number of stocks—weak in bees when packed for winter — and nucleus colonies covering only three or four frames in autumn will have already succumbed to the continued cold, while badly-protected and sparely-fed stocks will have had a trying time of it. On the other hand good stocks, well hived and fed, will be found generally safe and unharmed, despite the 40 degs. of frost.

No doubt some readers will be inquiring what can be done in extreme

cases, and the question is not easy to answer, so varying are the conditions surrounding each case. Briefly, however, we may say that a glance should be taken at all stocks for the safety of which any fear is entertained. Raising a corner of the quilts will generally suffice, and if the bees are discovered in a state of partial torpor, but not dead, the entrance should be closed and the hive carried indoors to a warm room. After a comb of unsealed food is set close to the cluster, a couple of warm bricks may then be placed above the quilts to assist in restoring animation, and if in course of a little time a joyful hum is heard the bees may be allowed to settle down in a cool room indoors for a day, and set outside again in the evening.

(*Remainder of "Hints" next week.*)

FOUL BROOD IN AUSTRALIA,

AND COMPULSORY POWERS.

The following is the draft bill adopted at the committee meeting of the National Bee-keepers' Association :—

An Act to Prevent the Spread of Foul Brood and other Contagious Diseases among Bees.—Whereas it is desirable to prevent the spread of and to eradicate contagious diseases among bees—Be it therefore enacted by the Governor of the Province of New South Wales, with the advice and consent of the Legislative Council and House of Assembly of the said Province, in this present Parliament assembled, as follows :—

1. Every person who shall have in his possession, or under his care, any colony, hive, or swarm of bees affected with foul brood or other contagious disease, shall forthwith report the same to the Department of Agriculture, and take such steps for the eradication of such disease as the department may direct.

2. Any person who shall, after one week's notice in writing having been served upon him by the department or person appointed or authorised under the provisions of the next clause, knowingly fail to observe the foregoing section in any particular, or shall knowingly have on his premises any comb affected with foul brood, or other contagious disease among bees, shall be guilty of an offence under this act, punishable, on summary conviction, by a penalty of not less than 5s. or more than £10.

3. For the purpose of this act there shall be appointed by the Governor one or more bee-experts to carry out the duties necessary for the administration of this act, and the Governor may, from time to time, make such regulations as may be necessary.

4. Any inspector, or person appointed or authorised by the Department of Agriculture for the purposes of this act, may, with such assistance as he may think fit, enter upon any land or premises where bees are kept and inspect all beehives and materials used for bee-keeping thereon.

5. This act may be cited as the Contagious Diseases among Bees Act.

—*Sydney Mail, November* 10, 1894.

BRITISH BEE-KEEPERS' ASSOCIATION.

We would remind our readers that the annual general meeting of the association will be held at 105, Jermyn-street, on the 21st inst., at 3.30 p.m. The president of the association, the Baroness Burdett-Coutts, is announced to preside. The committee hope to be favoured with a large attendance of the members, and that members of the several affiliated associations will also make an effort to be present. Several important subjects are announced on the agenda for consideration. A conversazione will be held at 5.30, after the close of the general meeting. Those intending to be present should advise the secretary as early as possible.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of January, 1895, was £522.—*From a return furnished by the Statistical Office, H.M. Customs.*

A REQUEST.

TO SECRETARIES OF COUNTY ASSOCIATIONS.

Will secretaries of County Associations please send Six County B.K.A. Honey Labels as soon as possible to Mr. John Huckle, King's Langley, Herts? They are for making up two complete collections of honey labels for presentation to the Apothecaries' and Grocers' Companies.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

"NOTES BY THE WAY."

[2224] The weather is the great topic. Intense cold has been the order of the day, and intense cold the condition of the night. Records have been broken, or new ones made, and the spirit of my thermometer will have

to contract itself into the very bulb to beat the reduced column of Wednesday morning last, when 31 deg. of frost were recorded. This intensity naturally directs one's thoughts to the poor bees, so susceptible to cold when isolated, yet able to withstand extreme cold when clustered on a good supply of food. The fact that cakes of candy were given to all known to be in need buoys up the hope that all will be well, but six weeks' continuous confinement, with no sign of a break in the weather at time of writing, engenders fears of dysentery in the weaker stocks and nucleus colonies.

The Foul-Brood Question.—The reason I have advocated Mr. McEvoy's method of curing foul brood is that it is (to my mind) the most reasonable and rational one. I know of the "Quinby" and the D. A. Jones' methods, but the starvation of the bees on the D. A. Jones' plan may possibly injure both bees and queen, while McEvoy's cannot do so, as they are kept at work in a natural manner all through the period of transition from disease to health. A second reason for his method is Mr. McEvoy is a British Government official; third, that he has cured, and is still continuing to cure, foul-broody apiaries; fourthly, that other bee-keepers on the great American continent have cured their apiaries in the past by McEvoy's or similar methods. Space will not allow of a list of bee-keepers who have cured their bees by these simple methods, but are they not recorded in the annals of American bee-keeping? I have not stated that Mr. McEvoy asserts that honey is the only source of infection, though the fact cannot be gainsaid, that honey is the only incentive for bees to rob out a defunct or a weak colony, and proves McEvoy's contention correct; but McEvoy knows the combs and their contents—bee-food—are sowers of contagion, else why does he insist on the destruction of all the contents? Dzierzon's case and McEvoy's may differ totally in their environments. Dzierzon's apiary may be in close contiguity to other diseased bees, and contract the disease. Again, Mr. McEvoy, armed with power, may have these chances of re-infection destroyed, and all the diseased colonies of the district under cure at the same time. I fail to find anything in my "notes" holding up scientists to ridicule, otherwise I should not quote from Dr. Howard's admirable book on the rational treatment of foul brood; neither is ridicule likely to emanate from my pen of those masters in apicultural science who have devoted so much labour and time to the elucidation of the truth *re* the genus *Apis*. I contend that there is no analogy between foul-brood germs in bees and fever germs in the genus *homo*, or of bee-hives and dwelling-houses (not even a cottage with only two rooms of circumscribed cubical area), yet, I ask, how many of a family of five or six children (the susceptible ones) in such a confined space are likely to escape infection, when fever, measles, or whooping-cough invade these domiciles? I do not say all will die, but how few escape infection is patent to every one. But I fail to see any analogy, as the recovery in one case depends on the individual constitution combined with good nursing. But when we come to consider the robustness or otherwise of individual larvæ, this opens up such a vast debatable ground that space forbids even to touch the fringe of the subject. I will only add that so long as nurses feed the *nursed* with germ-poisoned food, or the *nursed* are placed in berths containing germs of the disease, the chances of cure are very remote. One would look for offspring of one mother fecundated by one act of copulation with one drone as all equal in robustness. No, sirs; the patch of brood from eggs laid the same day must all be of equal robustness of constitution.

Dr. Howard is, I believe, at the present time investigating the new bee disease which, in some districts of America, threatens to prove more destructive than foul brood, and I hope if he reads the BRITISH BEE JOURNAL that he will give the point further consideration, and test the quiescent state or otherwise of the spores of bacilli. A small mechanical fan driven by watchwork could be used to agitate the air of even a closed chamber. But to return, Dr. Howard proves from microscopical observation and examination that bees do not, because they cannot, remove the dried-up residuum of foul brood from the cells; that they do their best to clean out these cells every one who has practical knowledge of bees and their habits know full well; and we also know that where they are unable to deal with the foul mess they cap over the cells and allow the capping to remain. The fact that bees in clearing out these foul-brood remnants from the cells, drop some on the floor of the hive, and probably carry some out of the hive to drop on the ground, and that these particles contain germs, I have no doubt, but how long these germs retain their vitality is another question. Dr. Howard experimented somewhat on this very question, using sterilised road dust in which to mix his germs of bacilli, procured from these very same dried-up particles of diseased larvæ, dissolved in distilled water and mixed with dust; for three days he made cultures on gelatine and potato, beginning at once and continuing for three days. Every 12 hours the growths were as follows:—At once all cultures grew; at 12 hours ½, at 24 hours ⅔, at 36 hours ⅞, at 48 hours, 60, and 72 hours none.

The mistake in questioning the truth "that chilled brood is a hotbed for foul brood" is mine, if it can be proved to be such. I know Mr. McEvoy positively asserts that chilled brood develops into or originates foul brood, but our scientific bee-masters, past and present, say that it is impossible for septic germs to develop into bacilli (*i.e.*, if wheat is

sown we do not get a crop of oats, to use a homely simile). Our scientists contend that unless the germs or spores of bacilli are present in the brood before the latter is chilled, foul brood cannot develop from larvæ rotting by septic putrefaction. As I understand the matter, putrefactive germs, bacteria, and the germs of decomposing brood, only destroy, *i.e.*, use up dead inanimate bodies or tissue. The bacillus *alvei* (of Cheshire) feed on the living animate larvæ, and eventually destroy (kill by poisonous compounds) them. After the larvæ are dead the septic germs join the bacilli in the destruction of the dead brood, therefore, I contend that if the pathogenic germ bacillus is introduced to growing living brood, the living brood is a better medium for its growth and development than brood chilled and rotting and infested with non-pathogenic germs.

The "Nutt Hive" colony possibly, nay probably, contracted infection from outside; other bees in the neighbourhood of the sale may have been diseased. Observe this hive was well washed—*i.e*, to a certain extent disinfected. How do we know the germs or spores resulted from the "Nutt Hive?" The bees in said hive previous to the sale may not have had foul brood; we have no evidence that they had. If adult bees of diseased colonies contain these myriads of bacilli—and they are even to be found in the very matrix of the life of a colony—how, I ask, are we to hope for a cure? Yet, on the other hand, we have the dogmatic assertion by those who have cured large apiaries, or part of large apiaries (if space permitted I could give a long list), by the simple method I have endeavoured to lay before your readers. Can any reader give an instance of a radical and complete cure of a genuine case of foul brood by the use of drugs? I know an apiary where every remedy has been tried that has been recommended by science, except Blow's remedy, not in a muddling way, but intelligently and persistently for the past eight or nine years, yet though the disease has been held in check, the bees have not been cured in a single colony. The owner writes me he fully intends to give McEvoy's method a trial next summer.—W. Woodley, *Beedon, Newbury.*

Errata.—Page 44, col. 2, par. 1, for "putrefactive germs dying in their own prisons," read "dying in their own *poisons.*"

FOUL BROOD CURED.

[2225.] In 1892 my two stocks of bees gave me 142 lb. of extracted honey and sections, and I had no suspicion of foul brood; but on March 31, 1893, the county expert called, and being unwell I fortunately asked him to look at my hives. He reported that both were badly affected with foul brood, and I at once sent to the Journal office for naphthaline and naphthol beta. I put the former into both hives, and have continued it ever since, I also put salt in the water I give to the bees.

On April 9 the hives were crowded with bees and brood, with lots of new honey, and not more than a few affected cells in each brood-comb, so that they did not seem to me to be badly affected. Not wishing to lose the healthy brood, I poured syrup medicated with naphthol beta along the seams of bees, and continued this daily till April 24.

On that day I put the bees from my best hive, which contained twelve combs, into a fresh hive on foundation (with new frames and ends), and put it in the evening in the place of the other hive, as honey was still coming in, and I wanted to have them strong for the clover. I gave them three full sheets of foundation and five half-sheets, and I continued feeding this hive with medicated syrup till the middle of May, when they again began to store new honey. I supered them on June 11, and they gave me 19 lb. of extracted honey from the limes, which were quite over by July 2.

The brood combs removed from my latter hive on April 24 I put in my second hive. The other combs with frames and metal ends I destroyed, and I also removed and destroyed all combs from the second hive, except those containing a fair quantity of brood. There was about 15 lb. weight of honey in the combs which I destroyed.

The second hive I broke up into two and treated it in the same way as the first, destroying the remaining combs.

The empty hives I washed carefully with carbolic acid solution (2 oz. to a quart of water) and painted them inside and outside.

I burnt the quilts, frames, and dummies which had been used in the autumn and winter, and carefully washed with carbolic solution and afterwards sulphurised all supers, shallow frames, and other apparatus. Soiled sections and shallow frames I burnt, but those which were quite clean I merely sulphurised.

In the autumn the expert reported that both stocks were quite free from disease, and he made a similar report in the spring and autumn of 1894.

The most trouble was in disinfecting all the apparatus, as I felt it must be done thoroughly. Some of it has not yet been used in the hives, but I trust all is now safe.—T. F. L., *Brondesbury, February* 8.

THE DOUBLE-QUEEN SYSTEM.

MR. WELLS' REPLY TO HIS CRITICS.

[2226.] In referring to Mr. T. F. Ward, B.B.J. for Dec. 20, 1894, p. 504, No. 2139, I quite agree with your correspondent that 32 lb. is not a big "take" from one stock of bees in one year; but the point is, would he be dissatisfied with that amount if the average "take" of his neighbours did not amount to one-ninth part of that amount? Moreover, on what grounds does Mr. W. say, "especially when it is considered that every

particle of honey in the hive is removed?" If that is his practice it certainly is not mine, for under no circumstances do I remove honey from the brood-combs unless they contain more than the bees require for winter use, in which case one or two combs are removed and stored away until some stock requires food, in which case an empty comb is removed, and the full one inserted in its place.

Mr. W. also says, "in no other way could such a large amount of wax be obtained." He falls short of the mark again, because my wax is obtained in a far better way than that suggested by your correspondent, who stumbles again by suggesting that the cost of sugar for winter stores must be deducted from the profits. How could it be *profit* if deductions like this had to be made? Without intending any offence, I must say it is rather begging the question to talk of larger "takes" than mine in some distant county. My view is that, to have any value, comparison of systems must be confined to results in one and the same county; or, better still, of same district. Your editorial footnote (for which I thank you) appears to have opened Mr. W.'s eyes somewhat, by the tone of his second note (2166, p. 8). If Mr. Ward is really prejudiced against the double-queen system, I know of nothing so likely to remove his prejudice so effectually as giving the system a fair trial himself. Mr. J. M. Hooker has been referred to by Mr. W., and could tell him something about the system if he desired it. I hope your correspondent will take what I have said in the friendly spirit in which it is meant, and that we shall have the pleasure of comparing notes for many years to come.

Mr. J. Walton (2154, p. 515, vol. xxi.) also expresses a wish to know how I obtain so large an amount of wax. Well, I cannot say whether or not this district yields more wax than others, but I manage mine as follows:—I know that for every 100 lb. of honey extracted the cappings will produce about 1½ lb. of wax; then I every year set aside a certain number of old combs to be melted down, and from every 100 of these combs I get about 15 lb. of wax. I can thus always tell within a trifle what my wax cake will weigh. In 1894 I extracted 524 lb. of honey, and melted down 110 old combs, which together yielded about 24 lb. of wax, but it being darker than usual, I have decided to send it to Mr. T. B. Blow in exchange for foundation, &c., and I can refer any one curious enough to care for a sight of my 24-lb. cake of wax to that gentleman, who I doubt not would show it to them if it is not yet melted down. It should also be stated that I never remove more combs than actually wanted until quite the end of season, when the cappings are much thicker than earlier on, or when just sealed over. I do not think it either unfair or misleading to get the wax in this way, and put its value down as I have done, because, if I get so large an amount from the old combs, the money paid for foundation is reckoned in the expenses for the whole year. Some persons seem to contend that my figures are misleading; why, I am at a loss to say, as I try to make everything as plain as possible, and it is surely not my fault if they cannot understand.

I trust that friend Wm. Woodley, who is also anxious to have this wax matter explained, will be satisfied with what I have said above. Of course he will see that I do not get it in the way that he suggests. Next, Mr. Ward (2156, p. 3) says that the comparison between my own results and that of my near neighbours "proves nothing." I must respectfully beg to differ with him, because some of the apiaries referred to were managed by their owners with a keenness that leaves little more to be desired in the one-queen system, and some of them far older hands in the craft than myself; in fact, one of them possessed the first frame-hive I ever saw, and when I began to use frame-hives, he very kindly gave me his assistance. He not only understands bees and their requirements, but has carried away first prize in every class in which he exhibited at a B.B.K.A. meeting. Friend Woodley may say this, too, proves nothing, but I think it should go towards showing that some of the bee-keepers I have referred to do not "leave their bees to do just as they like." As a matter of fact, some of them give their bees more attention than I have time to bestow upon mine.

In conclusion, I would say that one thing is quite certain, namely, the two-queen ball has started rolling, and I quite believe the man is not yet born who will live to see it stop. I thank Mr. J. H. Horn very much for his report (2172, p. 15) and kind invite, and should I at any time visit his neighbourhood I will certainly seek him out. B.B.J. readers desiring to know anything about my wax extractor, will find it described in B.B.J. for December 28, 1893, p. 315.—G. WELLS, *Aylesford, Kent, January* 23.

MISREPRESENTING THE B.B.K.A.

[2227.] I have thought it my duty to call your attention to a statement made by a contributor to the *Journal of Horticulture*. The writer to whom I refer seldom misses an opportunity of saying something either sarcastic or derogatory with regard to bee associations, and the B.B.K.A. in particular; but the climax was reached on January 17, when, referring to the action now being taken with regard to foul brood, he writes as follows:—

"The question of foul brood has been much discussed of late, and the Government have been urged to take steps to have an Act passed for its suppression. The object of ridding the country of the disease is a laudable one, but we cannot disguise the fact that the same individuals who are so clamorous for Government interference have shared not a little in spreading the disease. They have condemned

straw hives, and yet these were the only ones they publicly demonstrated and manipulated with at their exhibitions. Every one of which I attended I saw foul-broody combs from them cast in the fields, and the bees from neighbouring apiaries working on them."

A rather strong indictment, if true, and in my opinion it ought not to be passed over; and as one who has had charge of bee-tent and manipulation of bees, I cannot force myself to believe it to be true. That experts appointed by officials of bee associations act as above is most improbable, and in the interest of the craft I hope you will insert this, as I think it very unfair that so unjust an accusation should be scattered broadcast through the country.—J. MARTIN, *Expert, Bristol Bee-Keepers' Association, February 9.*

[The whole of the statement quoted above is so thoroughly improbable that it refutes itself, so it is hardly necessary for us to say that there is no truth whatever in the allegations, and we are only astonished that there should be found any paper willing to publish such utter rubbish. Every one knows that at all the shows of the B.B.K.A. frame-hives have been used for manipulation and straw hives only so far as to show how bees should be driven out of them and utilised instead of being destroyed in the sulphur-pit when taking the honey. Were an expert to cast about foul-broody combs as alleged, he would certainly be liable to forfeit his certificate; but with all the shows held throughout the country, such a case has never once been brought before the B.B.K.A. Such statements by irresponsible individuals are always best left to refute themselves, for no impartial person, or one with any knowledge of those who conduct the affairs of the association, is likely to believe them, and it would be certainly beneath the dignity of the gentlemen at the head of the B.B.K.A. to treat such allegations with anything but the silent contempt which they deserve.—EDS.]

"HINTS FOR DISCUSSION."

[2228.] Referring to "Hints for Discussion," and in reply to your correspondent, Mr. Brice (2214, p. 54), I beg to say that this only applied to the closing paragraph of my notes (2205, p. 43); yet I am open to discuss, in a friendly way, anything I pen for these pages. I never write without a reason, though I am fain to admit I err.

Perhaps Mr. Brice will explain in what I am "erroneous and misleading?" The "theorist" of Mr. Brice is a practical bee-keeper, a writer of the most concise and practical work on "The Natural History and Rational Treatment of Foul Brood," yet issued from the press; author of an essay on "Honey Producing Plants," some fifteen or sixteen years ago, and more recently of a valuable paper on "Honey Plants of North Texas and how to utilise them," and at present investigating the new bee disease that has spread such havoc in America during the past year or two. Mr. McEvoy is the man of whom Mr. Holterman speaks as a man of tact and judgment in the very letter Mr. Brice hopes we readers will "lay well to heart." I refer him to "errata" for answer to first part of second par. There Mr. B. speaks of the infectious state of the atmosphere around a foul-broody hive, evidently believing that germs or spores of bacillus are floating thistledown fashion waiting for the next wave of air to convey them to fresh hives and pastures new. Notwithstanding all that our scientific teachers have taught us on that and kindred subjects, we have yet to wait further confirmation before it can possibly be demonstrated that such is the case. The glutinous dried up residue (not a large mass, I admit), but enough to contain myriads of spores of bacilli if the egg of a bee is large enough to contain a hundred millions of spores (Cheshire, page 16, Foul Brood). This residue is not soluble in alcohol, but it is so in water, hence its dangerousness in the brood nest, as honey recently gathered containing a large proportion of water, or the food stored by the nurse-bees for the larvæ containing water, would receive infection by softening this residuum and liberating some of the spores or germs, which have been in a quiescent state, till suitable media has given them a new growth.

Now a word *re* Inspectors? Who will be our Inspector or Inspectors? Will any special examination he held to test the knowledge of the candidates for this great and important office, and with what instructions will he start out on his inspectorial tour? Compensation seems a bone of contention with us. I say let us approach the matter in a fair, impartial, yet generous way, and not forget the "golden rule." (Mr. Webster, I am very sorry to say, will not get a vote from me if Inspectors depend on a plebiscite of bee-keepers for the post, and he should become a candidate.) According to Messrs. Brice and Webster, diseased stocks are of no intrinsic value. Mr. W. calls it "cheek"—whatever that may mean—to mention the word compensation in relation to a diseased stock of bees. I ask, if a stock of bees is so bad that it will die out during the next month or two, is it of no value to surrounding bee-keepers with healthy bees to have that stock cleared out? I do not wait a week for an answer, I anticipate, and say, yes; but where is the liberty of the subject? where the Englishman's "castle home," if an Inspector is to kill and destroy of his own free will, without some compensating clause? I feel sure that we shall see such a decline in apiculture for years to come that will astonish, may wreck, our associations, if Inspectors are to go around burning and destroying bees and appliances without compensation. I mentioned "kind" instead of cash as an incentive to start again. Who, I ask, will expect full

value for a diseased stock of bees? Who has suggested that a healthy stock should be given in place of a diseased one? But if the inspector goes into a poor man's apiary and has power to destroy his little stock of two or three hives of bees, and has no compensation to offer him, I say it will be a cruel shame to that poor man. If, on the other hand, the inspector calls, inspects the bees, and says "I am sorry to tell you, Mr., your bees are in a very bad state, you must burn the lot; the hives are shaky and some combs old, if they had been healthy the three would have been worth £2 5s., or 15s. per stock. Under the circumstances, I shall appraise the value at 25s. This will not be sent to you in cash, but through the county association, you will be started again with bees and appliances to that value in due course; herewith I give you a cheque note for the amount." This I say will start the man again as a bee-keeper; he will be brought into direct contact with the association of his county, and know where to look for help and guidance in the future. Mr. Brice says, "only badly-diseased stocks will be destroyed." Mr. Webster says, referring to diseased stocks, "would he not still go on year after year bearing anxiety for nothing; I've seen it so in scores of cases." May I ask Mr. W. if these lingering lives or deaths of colonies have received any helping hand from drugs or chemicals? If they have, and still linger on between life and death till the last closing scene, what will Mr. Brice's inspector offer to do for the not so *very* badly diseased cases? Will he dispense drugs *ad lib.* and disinfectants broadcast? In face of Mr. W.'s assertion that all this worry, work, and anxiety will be saved by the bonfire, rather would it not have been better if that man had never been a *poor bee-keeper*, but had invested his little savings in a "pig," then he would have got compensation, if he could get the inspector to see the pig before it breathed its last—W. WOODLEY, *Beedon, Newbury.*

BACTERIOLOGY AND ITS APPLICATION IN THE APIARY.

[2229.] Owing to the labours and patient research, combined with ingenious mental capacities in the interpretation and linking together of facts, of such masterly minds as those of Davaine, Pasteur, Hansen, and Koch, together with Lister, Burden, Sanderson, Klein, and Watson-Cheyne in this country, micro-biology has become, and will continue in the future, one of the greatest keystones to heretofore unknown secrets of natural metamorphosis.

Moreover, knowledge gained by the scientific study of bacteriology has now become of such practical value to physicians, agriculturists, brewers, dyers, and many others, apart from the vital importance it assumes in the actual existence of everything which has life, that I need no further excuse in bringing so important a subject before my fellow-bee-keepers.

Discussion is also opportune now, by reason of the controversy which is taking place concerning the question of "How to deal with the bee-keepers' pest of foul brood," the solution of which is so intimately mixed up with an accurate knowledge of the bacillus *alvei* (of Cheyne and Cheshire), primogenitor of whole question.

In a former paper to your journal I briefly alluded to this bacillus, and the importance of an accurate knowledge of its life history in attempting to combat its effects. In a subsequent letter to the same journal, another correspondent, as the result of an interview with me, drew attention to my views on an attempt to cure foul brood with the so-called remedies.

I then said—and perhaps am still so intrepid as to reiterate—that, so far as my experience both of the disease and its cause is concerned, I am of the opinion that in the majority of cases it would prove not only ineffectual, in curing or rendering profitable the infected stock, but would, as I have frequently urged, create a great danger in forming a focus of infection in the immediate neighbourhood, which in its turn may spread over a very wide area.

And here I would beg to add that in the hands of such eminently scientific bee-masters as Mr. Cowan, Mr. Broughton Carr, the late Mr. Cheshire, and many others, remedies may be all very well, for they have great manipulative skill, and still larger experience, but for the average bee-keeper, and more especially those who keep bees for profit and have a large number of stocks in close contiguity to one another and to their neighbours' bees, it seems to me abject folly to attempt a cure with medicinal agents.

Now let us turn to the more practical side of the controversy; I refer to the granting of powers to deal with the disease under the provisions of the Contagious Diseases (Animals) Act, 1886. The control, if granted, would, I think, be very beneficial and far-reaching if administered judiciously by those who had received an adequate training in the scientific and practical knowledge of bee-keeping; but it is to my mind of paramount importance that such inspectors should also be practical bacteriologists. Recently, whilst visiting bacteriological laboratories in Germany, I was struck, as I have been before, with the way these energetic and painstaking people make use of and apply their scientific education, and in this particular branch of science especially. Why, as enterprising people, are we so behindhand by comparison?

There are many capable bacteriologists who might be induced to undertake such work, and, what is still more to the point, original research might thereby be conducted which would doubtless lead to the ultimate advantage of not only individual bee-keepers,

but the whole world, including, of course, these industrious insects themselves. There is, for instance, bee-dysentery: how much do we know concerning its etiology? Very little—practically nothing. It is, indeed, to be regretted that nearly all this kind of research work is conducted *con amore* by a, comparatively speaking, handful of men entirely at their own personal expense, yet the advantages accruing from applied knowledge so gained is oftentimes of enormous pecuniary importance, apart from its value in the actual saving of life and property.

Consider what the labours of Pasteur and Hansen have done for the vine-growers, silk-merchants, and brewers! And yet there are to-day agriculturists whose crops are allowed to rot in the fields, just because they lack even the most elementary knowledge of micro-biology and its practical application. And the same also applies to the bee-keeper.

I said in a former communication, sterilise your infected hives and appliances with current steam or dry heat, preferably the former; and should you think fit I will send a drawing of such an apparatus, and also render any further help that readers of the B.J. may require if it lies within my power to render it.

Finally, I would add that as it is these micro-organisms which are at the bottom of this mischievous foul-brood, those who have to deal with it must know more about it, or they will fail.—PERCY T. ADAMS, F.C.S., *Maidstone.*

[We shall be very glad to receive—for reproduction in our columns—a drawing of such an apparatus as is suggested; but would specially lay stress on the necessity of its being simple, inexpensive to make, and suitable for use in the hands of an ordinary bee-keeper, if it is to be of real service.—EDS.]

HONEY REMEDIES.

[2230.] I am glad to see so many testifying in your paper to the medicinal and other valuable properties of honey. I see now that chilblains are cured by this simple remedy. Here is a genuine and unsolicited testimonial to further exalt its virtues. My friend, who is a well-known author, says:—"You may like to know that my doctor told me, and I amply proved it by experience, that in doing hard brain-work there is nothing better for the work than pure honey. What you sent appears to have been really what I needed, so I feel greatly in your debt."—A KENT BEE-KEEPER, *February* 11.

Queries and Replies.

[1228.] *Dead Queen Cast Out in February.*—Having found a queen thrown out of one of my strong stocks on the 4th inst., and having two young queens, one in straw skep and one in four bars nuclei, I write to ask which of the two will be the best to give to them, and if Dr. Miller's system will do at this season of the year; or what way do you think the best for me to give them a queen? Your reply will be esteemed.—THOMAS MOORE, *Hartford, February* 5.

REPLY.—The chances are, of course, considerably in favour of the supposition that the stock from which the dead queen was thrown thrown out is queenless. We would, however, defer taking actual steps for requeening till a favourably opportunity occurs for examining the combs for queen or brood and eggs. This course is advisable, because queens are sometimes cast out of hives, which, on examination, are not found to be queenless. We need not go into the question of the why and wherefore of this, but merely state what is a fact known to experienced bee-keepers. Meantime, and pending decision as to queenlessness, it would be advantageous to the nucleus colony to place it above the supposed queenless stock with a single thickness of calico to part them. The nucleus lot might thus be preserved from the effects of the terribly keen frost now prevailing, which will, we fear, cause many small lots of bees to perish from extreme cold. If this plan is adopted, you will, of course, follow Dr. Miller's method, of allowing a free entrance to both stocks, and substitute paper for the calico if it is decided to unite later on.

[1229.] *Foul Brood in Comb Foundation, and various queries.*—1. May not foul brood be introduced to healthy stocks by using wax foundation? 2. Will the process of rendering wax in a proper wax-extractor kill the spores of foul brood? 3. Can you give the dimensions of circular and square tins to hold 7 lb. of honey? 4. What should be the density of a fair sample of honey, water being 1·0? 5. Last spring I fed my bees (and I expect some of my neighbours' bees as well) by the plan recommended by an expert, viz., placing a receptacle filled with syrup in a secluded corner of my garden; but I found a large number of bees unable to fly back to their hives, and some dead; can you tell me the probable cause? The food was medicated, just as I always give it, in the feeding bottles.—IGNORAMUS, *Tonbridge, January* 31.

REPLY.—1. The question whether bees are liable to become foul broody through using foundation made from combs from diseased hives has been fully discussed, but not definitely decided. It is generally believed that the risk of bees becoming infected with foul brood through the use of foundation is so small as not to be worth noting. 2. No. Because wax melts at about 144 deg., and the spores of foul brood have been known to germinate after being subjected to 212 deg., or boiling-point, for over half an hour. 3. We cannot; but any grocer—who keeps the ordinary 7-lb. tins of golden syrup—would

allow you to take the measurements thereof, and these would apply to the same weight of honey. 4. The simplest and most effective test of the proper density of "a fair sample of honey," is to dip the top end of a lead pencil into it, and if, on withdrawal, a good round bulk of honey is "lifted" on the pencil and runs slowly off, the specific gravity is right. 5. Open air feeding should not be started too early in spring, and only when the weather is warm. The food should also be very much thinner than ordinary bee syrup.

[1230.] *Crossing Carniolan and Black Bees.*—1. What qualities would bees possess produced by black queen crossed with Carniolan drones? Would they be in any way superior by comparison to bees produced from Carniolan queens crossed with black drones? Which, in your estimation, is the best cross of the two? 2. What breed of bees would you recommend for increasing stock? as I find I cannot get increase as fast as I would like from pure blacks.—AMATEUR, *Sunderland, February* 11.

REPLY.—1. Queen raisers who favour and cultivate the Carniolan strain of bees generally hold that a black queen mated with a Carniolan drone produces a far better strain than a black drone and Carniolan queen. 2. The swarming propensities of the Carniolan mark them out distinctly as the best bee for rapid increase.

WEATHER REPORT FOR JANUARY, 1895.

WESTBOURNE, Sussex.

Rainfall, 2·99 in.	Brightest Day, 7th, 6·50 hours.
Heaviest fall, ·88 in. on 19th.	Sunless Days, 6.
Rain or snow fell on 18 days.	Above average, 15·7 hours.
Below average, ·35 in.	Mn. Maximum, 36·1°.
Max. Temperature, 48° on 20th.	Mn. Minimum, 27·7°.
Min. Temperature, 20° on 29th.	Mean Temperature, 31·9°.
Minimum on grass, 13° on 11th.	Maximum Barometer, 30·31° on 30th.
Frosty nights, 24.	Minimum Barometer, 28·63° on 14th.
Sunshine, 93·7 hours.	

L. B. BIRKETT.

REVIEW OF CONTINENTAL BEE-JOURNALS.

BY J. DENNLER.

(*Continued from p.* 60.)

Nahhla l'Abeille, Bulletin de la Société d'Apiculture d'Algerie. Editor, Dr. Reisser.—M. E. Reisser, jun., gives a description of a Chinese hive, of which a friend of the family, who is a missionary in Manchuria, sends him sketches. The hive is built of bricks, and covered with pantiles, and is consequently not very easy to steal. At the back there is a double door on hinges, which admits of inspection, easily taking the honey, and introducing a swarm. In the front there is a square board, in the centre of which is found a circular opening, furnished with a zinc plate perforated with holes. These are about 7 to 8 millimetres (about 5-16th of an in.) in diameter, and allow the workers to go out and in. If rose-beetles or death's-head moths are found there it would be impossible for them to get through such entrances.

The hives have a capacity of 50 to 60 litres (11 to 13 gallons). What a difference between this simple and practical construction and the small cork and other unhandy boxes of our Arab natives.

Oesterreichisch - ungarische Bienenzeitung. Editor, P. Schachinger.—According to the observations made by M. Schachinger, who is a well-known bee-keeper, a colony of bees containing :—

20,000 workers collect in one day			½ kilo of honey.	
30,000	,,	,,	,,	¾ ,, ,,
40,000	,,	,,	,,	2 kilos ,,
50,000	,,	,,	,,	3 ,, ,,

Consequently, have strong colonies.

Münchener Bienenzeitung. 17th year. Editor, F. Fink.—M. Bachmaier gives a description of the various processes to which Dathe's hive has been subjected, in order to ascertain whether straw or wood is the better material for the construction of a hive. The celebrated M. Dathe first constructed a hive with double sides, the space between the sides being filled with straw. He did not think the wintering in it was quite so good as in a straw skep. He then made his hives of straw, with the defects known to all bee-keepers. He then made them of wood lined with straw, and in this way he got swarms of wax moths. Dathe then tried the reverse by putting wood inside and straw outside with renewed disappointment. At last he returned to his first hive, and has ever since constructed his hives with double sides, packing the space between with straw.

Bienenvater, Vienna (Austria).—The Court Councillor and Professor of the University, Dr. K. Claus, gives his opinion on the fact noticed at the last Vienna Congress of two queens working harmoniously together in the same hive, and which so interested, amongst others, Dr. Dzierzon. M. Claus affirms that the case of two queens being found together in one hive has already been frequently observed. The cause of this abnormal condition is to be attributed to the sterility of the old queen, which, in consequence, is not able to lay eggs, or lays very few; or, on account of a defect in the structure of her genital organs, she is not able to lay eggs which are capable of developing into life. In both cases the mother is tolerated in the hive, although the bees rear a young queen which lives peaceably with the invalided one.

Revue Internationale d'Apiculture. Six-

teenth year. Editor, Ed. Bertrand, Nyon.—The manner in which M. Knill (Algeria) prevents the queen from going up into the supers :—Up to the present time I have never taken any precautions whatever to prevent the queen from going up into the surplus boxes. The frames of my supers are placed across those in the brood chambers, which contain twelve frames of the Langstroth model (17 in. by 9⅜ in.). The frames in the supers are 17 in. by 5¼ in.

Our queens are hardly able to fill this space, and I blame them for not being prolific enough, therefore I mean to try them in comparison with the Italians, which I intend to import next spring.

The method of placing the frames of the supers across those below is very practical, as it is very easy to separate them. I also am led to believe that this position of the frames often has an influence on the queen, and it will prevent her ascending into the super so long as there are empty cells below.

In a state of nature one never finds upper combs square upon those below, but continuous combs of one piece. I think, therefore, that the way suggested is eminently suitable for the object intended, namely, to prevent the queen from mounting into the supers, it being always understood that there is breeding space available in the brood chamber.

Apicultural Literature.—*La Conduite du Rucher.* By Ed. Bertrand. With bee-keepers' calendar, three folding plates of hives, and ninety-one illustrations. This is the eighth edition, thoroughly revised and enlarged by the Editor of the *Revue Internationale.* This excellent work, containing 300 pages of text, and costing 2½ francs, has been translated and published in Italian, Russian, German, and Flemish, which is an incontestable proof of the great success and favour with which it has been received by the apicultural world.

A Swiss national exhibition will be held in Geneva in 1896, in which bee-keeping will take a prominent part. The object of this exhibition is—(1) to present as perfect a picture as possible of the present state of bee-keeping in Switzerland, by the show of the best models of hives, instruments, and machines of Swiss manufacture ; (2) to show what is done in the way of education, and to make known the works and activity of the bee keeping societies, as well as what is favourable in the condition of the country to apiculture ; (3) to obtain that notice and consideration to the apicultural products of the country which they deserve, both at home and abroad.

Bulletin de la Société d'Apiculture de la Meuse. In this paper we find the result of a competition in this Department between the masters who give instruction in bee-keeping and their pupils. The prizes are numerous ; they comprise a diploma of honour, a si vergilt medal, four silver, and two bronze medals. Some of the pupils received bee-books as prizes. It is very desirable that such competitions should be organised in every Department, as they contribute very much in popularising the good methods of bee-keeping.

Bulletin de la Société d'Apiculture de la Somme. Petroleum for checking "robbing." I had just uncovered the super of one of my hives, during a sunny morning in July, 1893, when a distinguished lady bee-keeper from the neighbourhood entered my yard. I hastily threw the quilt on the super to go to my noble visitor. After having entered my house and talked about hives, appliances, and more especially honey wine, for more than half an hour, I reconducted her to the carriage waiting for her at the door. I then returned to my work, and to my surprise found a swarm of robber bees round my hive.

In my haste I had not properly covered my super, and the robbers were entering at both corners. They wrestled and rolled over each other at these places, as well as at the hive entrance, in fierce combat. The hive was literally covered with robbers, who were making every endeavour to find an entrance.

I first closed the top of the super, and then considered what was to be done. The idea occurred to me that petroleum was an insecticide, and I hastened indoors to get some. With this I rubbed the hive all over, except a small space over and in front of the entrance. Ten minutes after this operation only five or six robbers remained, who were attempting to evade the vigilance of the numerous sentries ranged at the entrance. Half-an hour later the hive was perfectly quiet, and in its normal condition. A few bees that came in contact with my rag fell down dead, as though they had been suddenly struck by lightning.

The noble lady referred to, who was full of excuses for having upset my work, is, no doubt, quite ignorant of the fact that she was the cause of my fortunate discovery.

(*To be continued.*)

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

R. Chapman (Newton).—The correspondent you refer to has, we believe, already made his arrangements.

J. Paterson (Glasgow).—Our impression is that the piece of skep sent in is of Scotch make, but it certainly is not foreign. It is very similar to the skeps we have had many years ago from Messrs. Yates & Son, seedsmen, of Manchester, and they were called "Scotch-made skeps," but we do not know the actual maker's name.

Editorial, Notices, &c.

THE FOUL-BROOD QUESTION.

In the usual course we should have added a foot-note to Mr. Wm. Woodley's comments on our Editorial of February 7, page 51, but as his "Notes by the Way" arrived only just in time for press, with an urgent request that they should appear in our last issue, we deemed it best not to hold them over, but to allow them, in deference to our friend's wishes, to appear. Mr. Woodley goes over a great deal of debatable ground (pp. 63 and 4), too much for us to profitably deal with in a single article, but we will endeavour to point out generally where and why we differ from the views held by our correspondent. We have no desire to withhold from Mr. McEvoy all the credit he deserves for the indomitable energy and perseverance displayed by him in his endeavours to stamp out the disease; nor should we allow ourselves to be biassed in the slightest degree by the fact of his being a "British Government official." So far as knowledge is concerned, we are perfectly cosmopolitan, and prepared to acknowledge and give credit, as we always have done, to valuable discoveries, whether they come from Germany, America, Japan, or any other country. What we maintain from practical evidence is that Mr. McEvoy does not go far enough in his treatment, and, notwithstanding his assertions, we are not prepared to discard the testimony of some of the best and most scientific bee-keepers in Europe, who have contended successfully with foul brood.

As we before stated, Mr. McEvoy only differs from others in *that he asserts honey to be the only source of infection.* Mr. Woodley has not stated this, it is true, neither did we say that he had; but Mr. McEvoy has done so, and that is why we considered it necessary to point out where he differed from those who had gone before him. We did not mention Mr. Jones's method, as we consider it both cruel and unnecessary to starve bees to attain the desired end in the way he recommended, and the treatment would certainly be injurious to both bees and queens; but we have had practically the same method as that advocated by Mr. McEvoy in use since 1769, invariably with the same result, viz., that unless hives, &c., are disinfected the disease will break out again sooner or later. We certainly decline to believe that Dzierzon and other equally able men, who propounding the theory that honey was the medium through which the disease was propagated, would not take the proper precautions to prevent the conclusions derived from their experiments from being erroneous. More especially if we take into consideration how long ago those statements have been made, and how many German and other scientists have been working on the subject since.

Mr. Woodley, alluding to Mr. McEvoy's statements, says:—"This, I am fully aware, is in direct opposition to the theories of our scientists; but, I ask, have our scientists cured the disease? And, if they have failed in the past, are they likelier to find cures in the future? If we have tried their remedies and proved them failures, it is quite time to turn from theories and put practical common-sense to the test." What will the numbers of men who have cured foul brood as effectively with the help of drugs as it is possible to cure it by any means say to this? We could mention a large number of eminent bee-keepers who have resorted to drugs when other means had failed, and who have benefited as a consequence. We recollect a few years ago we were present at a convention of Italian bee-keepers in Milan when the foul-brood question was being discussed. M. Tartuferi, the owner of one of the largest apiaries in Europe, he having 1,000 hives, said he had had foul brood in his apiary, but was no longer afraid of it as he had effectually cured it, and he did not want a simpler method than fumigation with salicylic acid. With such testimony as this before us, and a great number of eminent bee-keepers declaring in plain words that they have been successful in combating the disease with the aid of drugs, can we conscientiously allow that "we have tried their remedies (*i.e.*, of the scientists) and proved them failures," and that "it is time to turn from theories and put practical common-sense to the test?" Is not this holding up scientists to ridicule?

Mr. Woodley considers that "brood from eggs laid the same day must all be of equal robustness of constitution," but

he has overlooked the fact that, although all the larvæ are fed with the same food —possibly "germ-poisoned," to use Mr. Woodley's own expression—only some contract the disease and die, and we have known in the earlier stages only one larva die here and there. But according to Mr. Woodley's reasoning, they should all be diseased. As he objects to a comparison with man, let us take some other animal, such as the young of a pig or dog. The whole litter have the same mother and are fed with the same food, but every one who has any knowledge of the rearing of these animals, knows that pigs or puppies of the same litter vary individually in robustness of constitution, and while some are strong and vigorous, others are always ailing, and in an outbreak of disease are the first to succumb, while the others will successfully resist the disease.

We are quite prepared to give Dr. Howard credit for any observations he has made, and for his study of foul brood, but it is quite evident from his pamphlet that he has only read what has appeared in the English language on the subject, and only that to a limited extent, ignoring altogether what has been done by Schönfeld, Cohn, Preuss, Hilbert, Fischer, and others. Had he followed Schönfeld from 1874, when the bacillus of foul brood was first discovered, he would have known that the fact of the germs being carried about in the air was ascertained and fully demonstrated, not exactly as Mr. Woodley suggests, but Schönfeld passed a current of air through a glass vessel which had a plug of wadding at each end, and thus filtered air was passed over a piece of foul-broody comb; in this way there could be no other contamination but by foul-brood germs. Dr. Howard has certainly not proved that bees do not partially remove the dried-up masses containing the spores, nor are his experiments with sterilised road dust by any means so convincing or conclusive as Mr. Woodley thinks. When we have known germs from foul-broody combs that had been exposed to the air for months to germinate on being placed in a suitable medium, we are hardly prepared to take Dr. Howard's experiment as conclusive without further verification. We would again point out that Mr. Woodley confounds a medium for propagation with a "hot-bed" for germination of foul-brood spores. We are not aware that any scientist has held this belief, or has ever supposed that chilled brood develops into foul brood; or that foul-brood germs could develop in larvæ rotting by septic-putrefaction. But from the fact that chilled brood has been found to contain foul-brood bacilli, we want more evidence before we can discard it as one of the media through which the disease may be propagated, although we do not for a moment admit that it is a "veritable hot-bed for the germination of foul-brood spores." We would like to point out that foul brood can be not only propagated by spores, but by the bacilli before they change to spores. For instance, we have ourselves started cultivation of bacilli from the blood of adult bees which contained only the rod-shaped bacilli, and this entirely disproves the assertion that only the larvæ are subject to the disease.

There is nothing to prove that the bees in the "Nutt's" hive mentioned had the disease previous to the sale; but, the fact that this was the only swarm at the time attacked by foul brood was very strong evidence in favour of the established theory that infection is carried through other channels besides honey.

We have had "dogmatic" assertions of cures with every known remedy, but Mr. McEvoy's statements do not go unchallenged even in America. Mr. A. I. Root, in speaking of the method, says that it is similar to what they adopted, and by which they cured seventy-five diseased colonies some years ago, but they took the precaution to boil the hives. Now why should they "boil" them if it were not to destroy the germs of infection? This is what he says:—"We at one time thought it was not necessary to disinfect them. Later experience showed that colonies treated and put back into their old hives without boiling showed, sooner or later, the same old disease." Now this is just our own personal experience and the experience of hundreds of other bee-keepers. No wonder, therefore, that we prefer to take and recommend the extra precautions of disinfection which Mr. McEvoy ignores. By all means destroy combs, honey, and frames, and start the bees afresh; but, in

addition, disinfect hives; never give anything but medicated food, and never be deluded into the supposition that the disease can be got rid of or even held in check by carelessness. We have already taken up more space with this subject than was intended, but may take the matter up again at some future date and go into the history of the disease and treatment, as it is not generally known in the present day what has been done in the past with regard to it.

USEFUL HINTS.

Continued from page 62.

BEES AND FROST. — Several correspondents have written us in some alarm during the last few days, inquiring what can be done when bees in some hives are found clustering at the doors and "fanning," as if it were summer, while those of other stocks remain still and quiet? This has occurred with several readers during a brief hour or two of sunshine recently, at which time the thermometer registered several degrees below freezing.

In reply, it may be said that uniformity of movement or action among the bees in an apiary is not looked for at all seasons, some colonies rousing up and showing themselves, while others—neither better nor worse as to condition—remain perfectly quiescent in frosty weather; and for no reason that can be readily defined. It is simply analogous to one person awakening at an untimely hour, while another slumbers soundly till morning. But so far as such activity as has been noticed causing alarm, it should have an opposite effect, seeing that only strong stocks will be found crowding entrances, and "fanning" under the conditions noted.

The "movement" may, however, be said to arise—as a rule—from the cluster of bees changing their position on the combs, presumably in order to move in a body on to those from which the food has not been already consumed. Another cause for alarm has been the flying abroad of bees at times on sunny days while the weather is frosty and snow covers the ground. Few of these adventurers ever get back to their hives, but, beyond shading entrances from bright sunshine, nothing can be done to prevent this mischief without risking the greater evils, which often occur through confining the bees indoors during winter.

"HINTS" FROM ABROAD. — On the principle that good things cannot be too well known, we refer readers to pp. 69 and 70 of our last issue in case they have been overlooked. On page 69 appears—as a result of experiment—the remarkable fact that while a colony of bees containing 20,000 workers gathered ¼ kilo of honey in one day, another with 50,000 collected on the same day 3 kilos, or *twelve times* the amount! Valuable evidence this as to the value of strong stocks! On page 70 are "useful hints" regarding petroleum for checking robbing in extreme cases, and also as to placing supers with frames *across* those in brood-chambers to keep queens below.

HONEY IMPORTS FOR 1894. — The total value of the honey imported into the United Kingdom during the year 1894 amounted to £33,272 sterling. This exceeded by the sum of £4,185, the value of that imported in the previous year of 1893, but shows a decrease of £29,256, compared with 1892.

BRISTOL BEE-KEEPERS' ASSOCIATION.

ANNUAL MEETING.

The sixth annual meeting of the Bristol Bee-Keepers' Association was held on the 13th inst., at the Priory Hotel, St. Augustine's-parade. The proceedings opened with a social gathering of members, nearly fifty of whom partook of a "high tea.' At the meeting and soirée which followed Mr. Jesse Prestidge presided, and the company included Messrs. W. Bryant, A. E. Martin, J. Martin, S. J. Rawbone, W. G. Wyatt, W. Webley, D. Willcox, J. C. Cannard, and James Brown, and E. A. S. Cotterell (hon. secs.).

Mr. J. Brown read the annual report, in which, after referring to the past bee season as one of average honey yield, and to the desirability of further help in the Association's work by means of County Council grants, the committee went on to state that the increase of membership had been highly satisfactory. In 1890 the membership was 110; in 1891, 170; in 1892, 200; and in 1893, 223. During last year forty new members had joined and thirteen resigned, making a net increase of twenty-seven, or a total membership for 1894 of 250. The report was adopted.

A very enjoyable evening was afterwards spent, the more technical portion of the proceedings in the form of discussions on several subjects connected with bee-keeping being

agreeably diversified by vocal and instrumental music contributed by members and their lady friends.

During the evening a resolution was passed approving of and wishing every success to the efforts now being made by the British B.K.A. to obtain powers for dealing with foul brood by Act of Parliament. A vote of thanks was also accorded to the Editors of the B.B.J. and the *B.K. Record* for the interest they have taken in bringing the subject of foul brood and its ravages before bee-keepers.

The meeting concluded with the election of officers for the ensuing year. Lady Smyth was re-elected president, and the Rev. L. H. Deering, of Long Ashton Vicarage, and Miss Dawes, of Long Ashton, were elected secretaries. General regret was felt at the retirement of Messrs. Brown and Cotterell from the general secretaryship.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE NOTES FROM SUSSEX.

A TRYING TIME FOR BIRDS AND BEES.

[2231.] In my last letter (2128), written on January 4, and kindly published in the B.B.J. for January 17, p. 24, I gave an enthusiastic description—which I am not a little amused to read over now—of the extreme mildness (although with the accompanying drawback of excessive dampness) of the then season. How little we anticipated the sudden change which was so soon to pass over the bland face of nature, and congeal it all beneath an impenetrable mask of frost and snow and rime. How great the contrast between then and now!

My garden is (at any rate apparently) an utter wreck. Not a shred of green vegetable to be seen. Even some hardy brussels sprouts brown and withering. Most of the leaves of plants in the same hapless condition. Everywhere, bare, dry sticks meet the eye. Here and there may be seen a few snowdrops or a crocus or two (the first appeared in flower on January 20th); but limp and hanging their heads, as if thoroughly ashamed of themselves for having made such a mistake as to push up out of their warm covert at so unpropitious a time. A large out-door tree—myrtle, sturdy enough to survive some severe recent winters, has every leaf crisp, dry, and rapidly turning brown. The very evergreens are languid and withered; the laurustinus blossoms, so full of promise a few weeks back, are hopelessly nipped and blighted; the bark on the euonymous is scarred and split and started. Truly, the destruction of the less hardy shrubs cannot but be great. Around us here, out in the open country, rather more than a mile from the sea, the birds are dying by dozens. We feed all we can; but our attempt is but a drop in the ocean of their need. We have revived a few thrushes by taking them indoors and warming them up; and now one or two come in the morning and ask to be admitted again, allowing themselves to be handled with little or no difficulty, so tamed are they by the hunger and cold.

The bees must have fared badly indeed in some places. The cold has been simply intense; the winds, ranging in direction from N.W. to S.E., have been terrific, both in force and bitterness, positively at times making breathing hard even for strong people, and numbing weak ones to the marrow; and the clouds of dust have been most trying: but we have been very fortunate in having little snow. Certainly, since this long frost began, and to the best of my observation since the beginning of the year, if not from farther back still, my bees have not ventured outside their hives until to-day, when, for the first time in this new year 1895, it has been warm enough in the sun to tempt them out for a brief flight, which must by this time have been sorely needed. But even at midday to-day the ground has not thawed. All my bees seem, however, well and vigorous, except those composing one weak lot, which, so far as I can see, are frozen to death between two combs. But as a few came out from the door of even that hive to-day, some must yet be alive in some obscure recess lying somewhere or other out of view; and, of course, I cannot explore this weather.

One can only hope that when the mild, genial spring does at last set in, it will come in earnest and to stay. The redeeming feature with us of this extremely searching experience, has been the general prevalence of cloudless skies and bright sunshine, making it a little more endurable for those who are not well adapted to bear severe cold, amongst whom is your humble correspondent, W. R. N., Sussex. *February* 13.

"HINTS FOR DISCUSSION."

[2232.] I presume, from Mr. W. Woodley's opening statement, on page 66 of your last issue, that I should express regret for not grasping his meaning *re* "Hints for Discussion," and for discussing the whole of his letter, page 44, instead of confining my remarks to

the closing par. of his "notes" on page 45. Any way, it was in no carping spirit that I drew his attention to one or two of the many flagrant misconceptions into which he had fallen when dealing with the scientific aspect of the foul-brood case. Mr. W. may consider me bold in venturing to do this, but I refuse to stand by and see a respected, and somewhat "looked up to," member of our craft struggling amidst a mass of incongruous and dubious facts (?)—to say nothing of completely floundering out of his depth among the mysteries of science—without giving our friend a word of warning. But, alas! my effort has not resulted as I hoped it would. Had Mr. Woodley read my letter carefully he would have discovered where he was "erroneous and misleading," and instead of requesting an explanation, have let the matter drop, and so saved my pen and your readers the infliction of this epistle. Mr. Woodley asks me to explain where he is "erroneous and misleading," and I will endeavour to do so. None the less, however, do I acknowledge that, as a practical bee-keeper he is one of the right sort, but as a scientist he, on his own showing, is nowhere. Mr. Woodley calls attention to the fact that the gentleman I referred to as a "theorist" is a practical bee-keeper, and the writer of the "most concise and practical work on foul brood yet issued from the press," &c. I beg to differ with him here; I am fully acquainted with the pamphlet of Dr. Howard, which he dignifies as above-mentioned, and have perused, and re-perused it. I have also carefully considered every point raised therein, and in the whole of its pages fail to find *one new fact demonstrated and proved.*

Mr. Woodley, in the closing paragraphs of his letter (page 45), sneers at the "fine flight of fancy" of the late Mr. Cheshire. I ask why? Cheshire's work on the subject is evidently before him, and I presume some thought has been given to the indisputable facts expounded therein, and verified time after time by scientists of the highest authority and unimpeachable ability. But no, this is not our friend's line just now; the facts are too positive for his mind, so he takes Dr. Howard's pamphlet as his text book, and, by a very easy process, paraphrases paragraph after paragraph, attunes the matter propounded therein to suit his own method of reasoning, twists the statements of others mentioned therein, fits in a few variations of his own, and lo! we have a perfect refutation of the scientific discoveries of our most eminent men, all in a nutshell. He then doles out the new discoveries in instalments for the benefit of the uninitiated. Why? Simply because, by so doing, he hopes to give weight to his views against "Compulsory Powers" to deal with foul brood in this country.

That he does so can easily be seen by referring to Dr. Howard's pamphlet and Mr. Woodley's letters, and comparing the same as follows:—Take Mr. Woodley, B.J., p. 24, pars. 4 and 8, and compare with Dr. Howard's pamphlet, pp. 45 and 47. Then read Mr. W., B.J., p. 44, pars. 2, 4, 5, 6, and 7, and compare with pp. 11, 16, 19, 25, 32, 41, and 45 of Dr. Howard's pamphlet, and so on *ad. lib.* I cannot avoid here asking, has Mr. W. himself verified any one of the new theories he thus discovers? or has he personally carried out one single experiment which proves that all accepted authorities are wrong, and that Dr. Howard and himself are right? If he has, then why has he hidden his light under a bushel till now?

It is not my intention to review Dr. Howard's little book, which, though useful in its way, cannot be considered for a moment alongside the works of Hilbert, Cohn, Watson-Cheyne, Cheshire, and others. Nor, as I take it, does Dr. Howard intend that it should be so considered. It is entitled "Foul Brood, its Natural History and Rational Treatment." Now, as a matter of fact, its "natural history" is supplied by Prenez, Schönfeld, Pasteur Cook, Cheshire, Watson-Cheyne, and others; and the "rational treatment" by Messrs. McEvoy, McLain, and others. The author, after remarking upon the works of many eminent scientists, puts forward eight "Propositions," and in support thereof refers to certain observations—and in one or two instances experiments—which he considers bear on the subject; he then gives his *belief* as to their reasonableness, but Mr. Woodley in his letters goes further even than Dr. Howard, and positively states as facts what Dr. H. only suggests may prove to be such. To prove the correctness of my view I beg leave to quote the following instances:—

On page 8 of the pamphlet, when dealing with maximum and minimum temperatures at which best growths are obtained in different media; peculiarities of each media; rapidity of growth; &c., Dr. Howard refers to the bacteriologists, who are mentioned in his work "*for these data.*"

On page 9 he also says:—"There is much to be learned regarding this disease, which only subsequent careful experiments can reveal." Again, at page 10 (*Proposition I.*), he says:—"To prove positively that *bacillus alvei* is the cause of foul brood, &c., it is necessary to carefully inoculate healthy brood, and note positive results. *This I have not done*, but the experiments of Cheshire, Watson-Cheyne, and others have *given positive results.*"

On page 13 (*Proposition II.*), referring to the fact that *bacillus alvei* has not been shown to be a putrefactive non-pathogenic germ, &c., he says:—"Further investigations in this line will be necessary to prove this proposition." Again, on page 19 (*Proposition V.*), is an account of a microscopical examination of honey stored in a cell containing the remains of a larvæ which had died and rotted of foul brood; and this is given as evidence of the honey being the medium of retention of foul brood, and con-

sequently the means of spreading the disease. This is also the case on which Mr. Woodley lays so much stress.

Page 22 (concluding paragraph). — Dr. Howard says :—"If future investigations shall demonstrate the correctness of these conclusions an important point will have been reached in the treatment of this disease." Then on page 23, in chapter headed "Conclusion." In summarising his own views and the views of others, Dr. H. says : — "I have finished my work, and, in a manner satisfactory to myself, so far as I have gone; but I earnestly regret that, for want of proper material, I am unable to verify the experiments of Cheshire, McLain, and others," &c., &c.

Now, from the above statements, it is to my mind clear, beyond all question, that Dr. H. has no desire that his views should be considered other than in the light of theories; what they may develop into in the future it is not for me to discuss; but when Mr. W. quotes as absolutely ascertained and verified facts what Dr. Howard himself merely terms "propositions," and gives us variations of his own, based upon no data whatever, beyond propositions upon which the author is unable to satisfy himself, I consider myself well within the mark in declaring that such statements are "erroneous and misleading." To illustrate the accuracy of the words thus used, take one instance, viz., where Dr. H., on page 25 of his book, under the head of "Treatment," contents himself with saying :—"I regard the use of any and all drugs in the treatment of foul brood as a useless waste of time and material, wholly ineffectual, inviting ruin and total loss of bees," &c.

Contrast this with Mr. Woodley on p. 44 of B.J., whereon he says :—"Dr. Howard, M.D., of Texas, has proved conclusively by experiments that Mr. McEvoy is right in his contention that spraying combs with antiseptics, and feeding bees with medicated food cannot radically cure foul brood."

There is not in the whole of Dr. H.'s pamphlet one single word as to an *experiment* on this question of treatment with drugs having been carried out by him (Dr. H.), much less anything in shape of a conclusive proof. I find nothing beyond a modest expression of opinion on the subject, arrived at from the observations of others. I trust to be excused for dealing with the matter thus, but an explanation of the words I used was desired by Mr. W., and I give him one. He must also bear in mind that the end we have in view is a vital one, in which one's personal feelings must be set aside where the good of the community of bee-keepers is being considered; at any rate, he should know that "theories" are not *facts*, and although when received first hand they deserve—and should have—careful consideration, when second-hand (as Dr. H. gives them) they may make us wonder if there is anything in them, but when dished up for the third time, it takes more than a little variation in arranging and garnishings to secure their acceptance as proven truths. But they are dangerous only to the uninitiated, though this does not alter the fact that they are none the less "erroneous and misleading."—HENRY W. BRICE, *Beulah-road, N., Thornton Heath, Surrey, February* 16.

BEE ASSOCIATION FOR SUSSEX.

THE EFFECTS OF FOUL BROOD.

[2233.] I, for one, would gladly join a Sussex association if one is formed, and should be happy if I could render help in furthering its objects; but I can scarcely see that there is any use in my joining it at present, or until some really certain cure is discovered for the fearful disease of foul brood. I am very glad that so much attention has been lately given to this disease in the columns of your useful journal, as, although it may be an uninteresting and apparently an unimportant subject to those who have had no practical experience of it, it is a very important matter for those who have had both practical experience of it and have been put to much trouble, loss, and annoyance by it. When residing in the north, and taking a deep interest in bee-keeping there, I and my neighbours were never troubled by it; but almost directly after I removed—fifteen years ago—into Sussex, foul brood appeared in my hives and in the hives of my neighbours; and, although various remedies have been thoroughly tried, and at times we hoped that it was eradicated, it has reappeared, and given us ever so much trouble again. Bee-keeping cannot prosper whilst this is the case, and a pastor feels compelled to hesitate before he encourages his parishioners to engage in it. If only an effective and sure remedy could be found for this troublesome pest, the case would be completely altered. I hope that the day is not far distant when such a remedy will be discovered. How joyfully we should hail it! We have diligently used preventive measures in this neighbourhood, such as keeping up a constant supply of naphthaline in the hives, medicating syrup, &c., &c., but they have all been more or less ineffective, and I suppose that we must expect them to continue to be so as long as two or three careless bee-keepers live at no great distance from us, whose hives are full of the disease, and who cannot be induced to take any steps to eradicate it. One of them has had repeated offers made to him which any reasonable person might be expected to accept, but he persistently rejects them—*e.g.*, he was not only offered an ample price for his hives and stocks, and was at the same time assured, by competent bee-keepers, that the disease had taken such hold upon the stocks that they must soon inevitably perish, but he was also told that he might retain for himself all the honey which might be found with them, yet he would not listen to the offer.

A poor summer—such as that of last year—seems to have a bad effect upon the bees during the following winter. I thought that my hives were all in admirable condition when I packed them up last autumn, and I fully expected that they had sufficient stores to supply them to the spring (under ordinary circumstances they certainly had), but, upon cautiously looking into one the other day, I found, to my great surprise, that the whole stock—a very fine one—had died of starvation, every vestige of stores having disappeared. Of course, I quickly examined my other hives, and was glad to find that they were all right; but I at once gave them a good supply of soft candy, to make sure that such a fate might not also befall them. This is the first time that such a fatality has happened to me in twenty-five years' bee-keeping experience. I have almost always, happily, found my stocks in the spring very nearly as strong as they were in the preceding autumn, and with a very small diminution of stores. I am very careful to pack them well for the winter, with a thick partition of cork-dust all around them, and with plenty of cork cushions, &c., above them. What was the reason of this particular stock eating so much, and thus perishing, I cannot imagine, except that syrup, with which I thought I sufficiently supplied them in the autumn, does not quite take the place of natural stores, or prove as efficient in supporting bee-life in the winter.—An East Sussex Rector, *February* 12.

EXPERTS' CERTIFICATES.

[2234.] I see a letter (2195, p. 33) in your issue of January 24 from our worthy treasurer (Mr. T. D. Schofield). I am sorry that he has had to complain of the remissness of some members—myself among the number—of the L. and C.B.K.A. in not sending their subscriptions at the proper time. Some of us have been under the impression that our subscriptions could be paid to the expert, when he paid his annual visit, and have, therefore, been in no hurry to forward them to the treasurer. (By the bye, our local secretary did write to the secretary of the association, requesting the expert to visit the apiaries of all the members of his branch.) I am glad your correspondent has called attention to the dearth of candidates for third-class certificates, and I should like to point out one thing which, in my opinion, contributes to it. I have been given to understand that candidates are expected to discover the queen in a frame-hive and in a skep in eight minutes, and that, if they fail to do so in the given time, they are rejected, though the rest of their examination may have been "up to the mark." Now, as one who has had considerable experience in handling bees, I think this is rather hard, and would probably in itself deter me from going to the expense of entering for the examination, and travelling some miles to meet the examiner, &c. I have before my mind two men who presented themselves for examination. The one who was considered the more intelligent bee-keeper was "ploughed" because he failed in the given time to find the queen, while the other came off victorious because, with a bit of good luck, he was able to spot "her Majesty." Surely success or failure should not be made to depend upon what is often "a bit of luck." I have known a first-class expert, before to-day, fail to pick out the queen in driving a skep, or looking through a frame hive. We require to find the queen so seldom, while the dexterous handling of combs is an almost every day necessity in an apiary during the season, that if a candidate shows general proficiency and skill in practical bee-keeping he ought, in my humble opinion, to pass, and so be encouraged to go in for a second-class certificate. This, I know, would be the case in one instance that has come under my notice. In this way, we could have in every district a supply of "hall-marked" bee-keepers, qualified to superintend the apiaries of our members without having to summon the expert from a long distance, at considerable expense to our association, and without that delay which, reasonably or unreasonably, is a source of disappointment and annoyance to those who think they have a claim upon his services, and join the association for that reason. May I suggest that the whole subject is worthy of discussion at the annual meeting on the 21st inst.?

I see on page 40 of B.B.J. that Mr. G. Stocks says that 5d. or 5½d. is the price obtainable for Cheshire honey! Last season I took 520 lb. from seven hives, and sold none of it under 9d., whilst the very best realised 10d.—A Member of the L. and C. B.K.A., *Cheshire, February* 11.

[We do not know the source from whence our correspondent obtained his information regarding examination for third-class experts' certificates, but he is entirely wrong with reference to the points named. A certain number of minutes are allowed in which to point out or capture and cage the queen as the case may be, but beyond losing marks for excess time the candidate does not suffer. With a competent examiner, luck—as our correspondent puts it—counts for very little; at the same time, the general incompetency displayed in the initial stages of the examination may be so apparent and conclusive that further trouble to both candidate and examiner may well be spared. We venture to think that if the circumstances of the particular cases specified are inquired into, something beyond what is stated above will be found to have caused failure. As a matter of fact, a candidate gaining *full marks* on all other points of the examination save capturing the queen could not be refused a "pass." Considerable weight is, of course, attached to manipulative skill in handling bees, but nowadays other

points are considered of still greater importance in the examinations, candidates frequently failing though fully capable of driving bees and handling frames.—EDS]

THE "WELLS'" SYSTEM,

AND MR. WELLS' REPLY.

[2235.] I entirely reciprocate the kindly sentiments expressed in Mr. Wells' letter (2226, p. 64); the word "prejudiced," however, does not apply to me, for I have already stated that I tried the double-stock system many years ago, and have several double hives in my apiary at this time. I am not concerned to prove that this system is a failure, and I shall be glad if Mr. Wells can give the same proof of its great superiority as did Mr. Cowan, in 1874, at the Crystal Palace, when those grand supers of honey stamped the bar-frame hive as far superior to the skep. But in criticising Mr. Wells' report I only seek to obtain information and establish truth. I have said it is an expensive, complicated, and difficult system, and I see no reason to change those views. Whoever expected to hear of 110 combs being melted down for the sake of the wax, and then crediting the same as produce of the bees in one season? I ask any fair-minded man if this is a proper reply to my remark that "in no other way could such a large amount of wax be obtained." If it be "stumbling," it is stumbling on truth. What I have said on this subject has been in the interest of beginners, and those who seek information and guidance; the older bee-keepers need no such advice, and if Mr. Wells is satisfied with the queries and reports on the subject from time to time in our journal so am I, in proof of my contention.—T. F. WARD, *Highgate, February* 18.

BEE PLANTS.

EFFECT OF SOIL ON HONEY PRODUCTION.

[2236.] Enclosed extract from the *Globe* (Echoes of Science) is interesting and valuable to planters of bee forage—if there be any in this country :—

"The production of honey by flowers varies much with the longitude and latitude of the place where the flowers grow, and, as M. Bonnier now shows, with the nature of the soil. He found that white mustard gave more honey in chalk sandy and chalky than in clayey soils, whereas Sarrasin (Polygonum Fagopyrum) gave more in clayey than in chalky soils. Phacelia prefers clay or clayey sand; Pastel and Luzerne prefer chalk. Sainfoin gives less honey on soils very chalky."

I was about to write you on the properties of basic slag, having seen and heard excellent testimonials to its value, when that interesting article appeared in *B. J.* of the 7th inst.—E. H. HOPKINS, *Bromsgrove, February* 11.

BEES AND THE COLD.

[2237.] Here at Fordwich on one night, and at Canterbury on another night, I hear the thermometer was below zero. Consequently, on reading "Useful Hints" (p. 62) about bringing hives into the house, and the bees to activity with hot bricks, I was feeling anxious as to the condition of my own, as they had been packed cold with cold current of air round, and the front top of brood boxes open.

To-day, February 17, it being warm—over 40 deg. in the sun—I examined my twelve hives with fourteen colonies, and found them all on the hum. A little later in the day the bees began to fly from nine hives, flying first and most from a four-frame lot in a single-cased hive, made from a Colman's starch box, with $\frac{3}{8}$ in. sides, and flying least, or not at all, from the double-cased hives. They had a good fly on January 20.

The easiest hive to examine had a board in place of calico quilt, with $\frac{1}{4}$ in. space above frames, and open in front for ventilation. I have a larger loss in bees this year than last.

On the night of the 7th inst., feeling the air at about zero at 10.30, I stopped entrances with snow crystals; before that the entrances had been kept opened, the strips sometimes being blown away by the late cold gales.—NED SWAIN, *Fordwich, Canterbury, Feb.* 17.

BRITISH HONEY.

[2238.] It is gratifying to know that British honey is "holding its own" against imported. This is the expression used by a large buyer with whom I had a conversation the other day in one of the largest stores in the metropolis. I was glad to hear him say that "they were doing a good and increasing trade in the home product." He was satisfied it was going well, and felt sure there would be a continued and improving demand for it. Here is distinct evidence of the B.B.K.A. efforts to bring British honey into greater prominence with home buyers, and secure for it that preference which it undoubtedly deserves.

The label scheme will further assist this satisfactory movement.—E. D. T., *February* 18.

BEE NOTES.

FROM UNDER THE THATCH.

[2239.] Some little time ago, when your columns were being deluged with floods of communications on that all-absorbing question, "compulsory powers" for the "stamping out" of that dreaded bee pest, foul brood, the *cacoëthes scribendi* was sore upon me, and difficult it was to repress the pen-and-inky fever fiend within me. But, remembering the sage advice of "Divine William" to "refrain to-night, and that will lend a kind of easiness to the next abstinence—the next more easy," and so on, and finding other and equally absorbing bee-work to do (dissections and

mounting), and that the flow of the electric-ink fluid was getting too strong—even for the nerves of an editor—I overcame the fever and was content to leave the solution of the difficult problem of pleasing one and pleasing all in the hands and heads—aye, and hearts — of the indefatigable Chairman of the B.B.K.A. and his able co-adjutors. But being by doctor's decree compelled to hibernate here in bed, under the warm thatch (veritable, I assure you) and blankets (not forgetting—oh, generation of bee-keepers!—the quilt), and the news being daily—yea, hourly—brought me of the dreadful cold without—I felt it not—of temperature 4 deg. below zero, of frozen pipes each night, and water-jugs in bedrooms—with stoves going incessantly—being filled with solid ice—my thoughts naturally took wings to my poor pets—the bees. Truly, these trying times must make us all anxious for the thaw, the warm sun, and winds—aye, and the rain. Never will the appositeness of the analogy of "the gentle rain from Heaven, that droppeth on the place beneath" to the "quality of mercy" be more apropos from the bee-man's point of view. It will, indeed, be "twice blessed"—by one, I know, a thousand-fold. In these later days, when permitted to sit up, my time has been pleasantly and profitably passed in reading and re-reading old bee books—Thorley, Huish, Bagster, and others. How quaint, crude, and, at times, childish these early authors seem to us! and yet undoubtedly they were close observers. But some of my most enjoyable reading has been the 1890 and 1891 vols. of the B.B.J. With ineffable pleasure I have re-read the charming account of Mr. Cowan's "Bee Rambles in Savoy," and longed to have shared the company and conversation of three such bee-men as MM. Bertrand, Cowan, and Layens. With some of the writings of the first-named I am familiar through the medium of an old volume of the *Revue Internationale d'Apiculture*. "Development of the Honey Bee," by Mr. Grimshaw, the papers on microscopic work, and the thousand and one other interesting articles spread about in the above-named volumes have made the would-have-been weary hours of confinement and inactivity hours of happiness and enjoyment. I would most heartily impress upon my fellow readers that if they want a "real treat" to look up their old volumes and re-read them. Then, and then only, will they discover their value, and the treasures of bee-lore which lie—not locked up if so used—spread out before their minds. Then will they perceive the JOURNAL is more than a passing hebdomadal paper, to be glanced at when it arrives fresh from the newsagents, and after thrown away, but a lasting source for all times, whence flow never-failing streams of intellectual waters. We have not been entirely inactive here, but quietly pushed our way more prominently to public view. I send you "cutting" of leaderette from the *Manchester Guardian*, and three letters which it called forth. In answer to my own I received nearly thirty inquiries for advice and assistance. To each of these I replied in full on the various points they sought for information. Moreover, I invited such as could conveniently attend to an address here on "Modern Bee-Keeping for Beginners," when I gave them a two hours' practical demonstration with the aid of hives, appliances, and diagrams. It was my intention to continue the "classes" fortnightly through the winter, but my illness intervening, and the doctor laying his interdict on speaking, the "labour of love" has been temporarily—only so, I hope—foregone. Still, my efforts so far have not been unrewarded, and I have had promises of several new members. I intend to hold periodical meetings here in the summer and autumn for all those members in my district who care to come. *L'Union fait la force* with men as well as bees, and I trust that soon our numbers round here will be so augmented, and our members so persevering and successful that a great local Bee Show and Honey Exhibition will be an annual "event," eagerly looked forward to by all.

"Bon Voyage" to the new barque "Legislation," which, captained and manned by a sturdy crew of British bee-keepers—able-minded as well as able-bodied—will, I hope, weather the stoutest Parliamentary gales that may blow, and bring prosperity and luck to her owners. While applying for the present "compulsory powers," could we not have a fuller Bee-Bill, in which the law, as regards "property in swarms" might be more clearly defined? From my own reading, both as regards the law and the County-court judges' decisions, it is, as to the first, very indefinite, and as to the second, very unsatisfactory. Trusting you will have a good annual meeting, and a very enjoyable conversazione afterwards.—FREDERICK H. TAYLOR. *Local Hon. Sec., L. and C. B.K.A., Birch Fold Cottage, Fallowfield, Manchester, February* 13, 1895.

Queries and Replies.

[1231.] *Disturbance among Bees in Winter.*—I dare say you will think this a very strange time for an "Echo from the Hives," but the circumstances are so unusual that I should very much like to have your opinion of them. I have several stocks of bees, the hives of which face full north, but are sheltered by the house; the sun has no effect whatever on the entrances to them, but yesterday, the hives facing south were all alive with bees (though carefully shaded), but by spreading sacks and straw on the snow I saved a great many bees. To-day, at about 4.30 p.m., I went out and was much surprised to find that the bees of one of the hives which faced north were all crowding at the

entrance, and a hum going on which reminded me of the summer when honey is coming in. The thermometer registered 5 to 6 degrees of frost, with a bitter east wind blowing at the time. I have looked carefully round the hive but can find nothing to cause the bees to be disturbed. As I write (5.30 p.m.) they are still at the entrance; now and then one attempts to fly off but never returns. Can you give any explanation for this unusual occurrence, as I have had no parallel case? I fear this will be a bad winter for the bees.—G. JORDAN.

REPLY.—Though the circumstances are unusual we see nothing in them to cause alarm. The disturbance was no doubt nothing more than a general movement of the cluster of bees within, resulting perhaps in a change of position on the combs so as to be in closer proximity to a fresh supply of food.

[1232.] *Full Sheets or Starters for Sections.*—Knowing your willingness at all times to help your brethren of the grand order of the "Busy Bee," I venture to trespass on your space to ask—(1) From a business point of view, is it advisable to use whole sheets or only starters of foundation in sections? (2) Granting the same conditions, do bees take more readily to whole sheets, and work out better? I must confess that, though a bee-keeper for seven years, I have not arrived at a satisfactory conclusion. The results in the same hive have been most contradictory; at one time the starters have been drawn out and well filled, while the next section, which has been a whole sheet, has not been touched, and *vice versâ*. This has happened continually throughout my ten hives, and both sections have been equally well finished. There seems to be no doubt that sections with whole sheets travel better, but then many of my customers complain that the wax will not melt in their mouths like the others supplied (those with starters). I cannot sell run honey at all, but find a good market for sections, but not at the fancy prices (1s. and 1s. 2d.) as some of your correspondents get. Thank goodness, we here in Bucks (North) do not know what foul brood is; most of us keep our hives clean, and boil down old comb as soon as possible. What a sight it is to put fresh foundation in a hive, and see how the queen lays in nearly every cell; she is no slut, but likes fresh comb well, as well as we do.—A. B., *North Bucks, February 7.*

REPLY.—1. While making certain allowances for the conditions at time of giving sections, we have no doubt as to whole sheets of *suitable foundation* being preferable to starters from a business point of view. 2. Yes, but here it is that the words we have italicised come in. The foundation must be very thin, pale yellow in colour, soft in texture, and possessing the fragrance of good, pure wax. Thick foundation of bleached wax, which has so often a marked tallowy smell, is disliked by the bees, so much so that we have known them to refuse to work on the foundation at all, and build combs alongside it. The best makes of super-foundation are now rolled out so thin as to nearly approach natural comb in fineness of midrib.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

A TRUE LOVER OF BEES (Aberdare).—*Experts' Certificates.*—In order to qualify for the examination for third-class certificates, not only is skill in manipulating bees and hives necessary, but candidates are required to have a fairly comprehensive knowledge of bee-keeping in all its branches. In addition to this, there is also a special examination on the subject of foul brood which candidates are now required to pass. Full particulars may be had from Mr. J. Huckle, King's Langley, Herts.

NORTHANTS BEE-KEEPER.—*Compulsory Removal of Bees from Allotment Ground.*—Under the circumstances, a reply might be sent to the notice served upon you by the company, offering to waive any objection you might have to their proposal, provided fair compensation is given for the pecuniary loss you will sustain by their action. If fairly put, the chances are that some compensation would be given. We should, however, hesitate before incurring legal costs in endeavouring to compel compensation by law.

RICHARD BAYLY.—Comb sent is badly affected with foul brood.

HONEY POT (Market Harboro').—See reply to "A True Lover of Bees" above.

NOVICE (Herts).—1. Bees often die of hunger and cold with sealed food in the hive. 2. The spots on combs are not "unused pollen"; they indicate that the bees were affected with dysentery before they perished. 3. Only use the best and cleanest of the combs for a swarm. Melt the others down for wax. 4. No. 4 sugar is good for syrup-making in spring, but No. 7 is preferable for autumn use. A reliable guide-book on bees is necessary to every novice who hopes to succeed; our reply column is not sufficient for any one's sole teaching.

A WORKER (Tadcaster).—1. No distancing apart of hives will prevent promiscuous mating of drones and queens from different stocks. 2. Hives should be moved in winter if possible, unless the distance is over two miles. It is, however, fairly safe to move them one and a half miles in March or early in April in your district.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The final meeting of the council elected for 1894 was held at 17, King William-street, Strand, on the 21st inst. Present—T. W. Cowan in the chair, Hon. and Rev. H. Bligh, H. Jonas, E. D. Till, J. Garratt, W. B. Carr, W. H. Harris, Major Fair, J. H. New, W. J. Sheppard, and the following ex-officio members:—J. M. Hooker (Kent), Rev. W. E. Burkitt (Wilts), and F. H. Meggy (Essex), John Huckle, secretary. Communications were received from W. O'. B. Glennie (treasurer) and P. Scattergood (Notts) regretting their inability to be present.

The minutes of the last meeting were read and confirmed.

Letters were read (1) from the Rev. J. A. Kempe, of St. Veryan Vicarage, Cornwall, generously offering his services to the Association by giving lectures on bee-keeping, aided by the use of an excellent lantern and slides. Resolved, That the best thanks of the Association be given to Mr. Kempe for his kind offer; (2) from the hon. secretaries of the Notts and Shropshire Associations offering suggestions in reference to third-class examinations. Resolved, That the same be further considered at the next meeting.

The Southern Counties committee met at 1.30, and, after considering several matters brought before them, it was recommended that certain steps be taken with the view of forming an association for Sussex.

The special committee on foul brood also met later, and had before them further particulars from affiliated associations with regard to foul brood in different counties. In view of the large amount of information requiring to be dealt with, it was found necessary to hold another meeting on the 27th inst., at the offices of the BEE JOURNAL.

The following new members were elected:—

Mr. G. J. Wright, Picton-road, Ramsgate.

Miss F. Hemsker, Burgess Hill, Sussex.

Mr. H. T. Spice, Witham, Hastings.

Rev. G. H. Samson, Southlands, New Romney.

Mr. C. H. Hooper, Highlands Farm, Swanley.

A hearty vote of thanks was accorded to the chairman and vice-chairman for their services during the past year.

The annual general meeting of the members of the Association was held at 105, Jermyn-street, on the 21st inst. Considerable interest was manifested in the proceedings, as shown by the large attendance. Among whom, in addition to the gentlemen already named as attending the earlier meeting of the Council, we noticed the following:—The Revds. Dr. Bartrum, Gerard W. Bancks, R. Errington, E. Davenport, and W. Handcock, Miss Eyton and Mrs. Bancks, Messrs. R. T. Andrews, H. W. Brice, J. S. Baldwin, F. J. Cribb, J. S. Greenhill, John C. Walthen, W. R. Webster and many other well-known bee-keepers.

In the unavoidable absence of the president, who was detained abroad, the chair was taken by Mr. Cowan, chairman of the council, who, in opening the proceedings, expressed the regret of the Baroness Burdett-Coutts in not being able to preside as announced. The chairman read a letter received from her ladyship congratulating the Association on the excellent work accomplished during the past year, more especially in regard to the provision which had been made for establishing lectureships in apiculture, and expressed the hope that strenuous efforts should be made towards increasing the list of subscribing members. The minutes of the last annual meeting having been read and confirmed, Mr. Garratt read the report of the committee for the past year.

The Chairman, in moving the adoption of the report and statement of accounts, congratulated the members upon the improved financial position of the association, in respect to which they were all considerably indebted to the active exertions of the vice-chairman, Mr. Jonas, who, as chairman of the Finance Committee, had been most assiduous in his endeavours to place the association in a better financial position. The chairman specially alluded to the matter of finance as referred to in the committee's report, remarking that, although practically out of debt, if the association's position was to be maintained it was absolutely necessary that the list of annual subscribing members should be increased considerably, so that an additional income of at least £100 per annum might be assured. He also drew attention to the assistance which had been rendered to the parent society by the affiliated branches, and expressed the hope that the cordial relations now existing would be continued. In alluding to the question of foul brood, he pointed out that, in deference to the generally expressed wishes of bee-keepers that they should take some steps to check the spread of the disease by carelessness or wilful negligence on the part of persons owning diseased stocks whom the association could not reach, four years ago the matter was brought before the notice of the association, but, for lack of statistics, it could not be brought before the Board of Agriculture at that time; since then, however, the extent of the evil has so rapidly increased that information is now readily obtained, and the question has, in consequence, become ripe for settlement. Not only has the Council had the help and support of affiliated Associations, but the Irish Bee-keepers' Association has sent full statistics, and now asked that it should be urged that any protection that could be given to the industry of British bee-keeping should also be extended by the Board of Agriculture to Ireland. Although a draft bill had been published in

the B.J., the complete details and the statistics received would require the most careful consideration of the Council before any decided steps were taken, so as to carefully guard the interests of bee-keepers, especially those of the cottager class. The chairman concluded by quoting from the official returns, giving the value of honey imported into the United Kingdom, and observed that although the imports for 1894 were valued at £32,472, they fell far short of those for 1892, when the total value amounted to no less than £62,528; so that, notwithstanding the unfavourable character of the past year for honey gathering in these islands, the home industry more than held its own against importations from abroad.

Mr. Till, in seconding the adoption of the report, craved the indulgence of the meeting to refer to a few points which, although small in themselves, were of considerable importance to bee-keeping. He drew special attention to the need for giving every possible encouragement to local shopkeepers to sell only the purest and best honey and wax. Attention should also be given to the manufacture of such things as mead, honey-vinegar, and articles of food in which honey might form an ingredient.

The motion for the adoption of the report was carried unanimously, as was also a hearty vote of thanks to Mr. Kirchiner for auditing the accounts.

The Rev. Dr. Bartrum, in moving a vote of thanks to the retiring officers and committee, considered that the members of the association were deeply indebted to the Council for the large amount of excellent work which they had carried out during the past year. As an old member of the Council he could affirm that their work was one of great responsibility, as they were called upon to legislate on behalf of the industry throughout the United Kingdom. He thought that all were agreed that the work of the past year had been done both wisely and well. He hoped that in the work which they now had undertaken in respect to the question of foul brood they would carefully consider the difficulties of the question, and not seek compulsory powers until it had been abundantly proved that such were absolutely necessary.

Mr. Cribb seconded the resolution, and said, speaking for his own association (Lincs.), they heartily concurred in the efforts now being made for the suppression of foul brood, and they would also give full support to the B.B.K.A. in their efforts to obtain compulsory powers for dealing with it.

The usual votes of thanks were also unanimously accorded to the Royal Society for the Prevention of Cruelty to Animals for the use of their board-room for council and other meetings. After which the re-election of the Baroness Burdett-Coutts as president and the other officers of the association were unanimously agreed to.

The following resolutions were also carried *nem. con.*:—(1) "That the trustees be empowered to sell certain 'stock' for the purpose of issuing a new edition of 'Modern Bee-keeping,' the sum thereby expended to be re-invested in the Post Office Savings Bank from the proceeds of the sale of the work." (2) "That the privileges of affiliation be amended to provide for the payment of a fee not exceeding one guinea to judges and examiners." (3) "That the rules of the association be amended to provide (a) for all subscriptions paid by new members on and after October 1 to cover the period to December 31 in the following year; (b) that the word 'council' be substituted for 'committee' in respect to the managing body of the B.B.K.A."

It was also resolved "That the conditions observed by the affiliated associations for the supply of medals during 1894 be renewed for 1895."

The chairman next drew attention to the irregular way in which the reports were issued by several of the affiliated associations. The period of the year at which some of them were issued destroyed much of their usefulness, because secretaries of county associations would find the bound volumes much more serviceable if they could have them at an earlier date.

On the motion of the chairman it was resolved "That the best thanks of the Association be given to Captain Campbell (on his retirement from the Council owing to ill health) for his long services to the association as a member of the Council."

The proceedings closed with a vote of thanks to the chairman and vice-chairman for their services during the past year. Mr. Harris, in submitting the motion, said the members generally did not know how much they were indebted to these gentlemen for their untiring exertions on behalf of the association. As an instance of the interest the chairman took in the work of the association, he might state that he had travelled almost from Lands End in order to be present at the meeting. The resolution was carried with acclamation; after which, in thanking the meeting, Mr. Cowan and Mr. Jonas replied in a few appropriate words.

The newly-elected Council for 1895 subsequently held a short meeting, and elected Mr. Cowan as chairman, and Mr. Jonas as vice-chairman for the ensuing year. It was resolved to hold the monthly meetings on the second Thursday in each month. The annual first-class examination was fixed for May 9th, and the second class examination to be held on October 25th and 26th. The Council adjourned to Thursday, March 14th.

The Council for 1895 is constituted as follows: The Hon. and Rev. H. Bligh, Rev. G. W. Bancks, Rev. R. Errington, Major A. W. Fair, N. T. Andrews, H. W. Brice, T. W. Cowan, W. B. Carr, J. Garratt, W. H. Harris, C. H. Hooper, H. Jonas, J. H. New, W. J. Sheppard, and E. D. Till.

On concluding the general business of the annual meeting, a short adjournment was made for refreshment, after which the proceedings connected with the usual Conversazione commenced, report of which will appear next week, together with an abstract of the committee's report for 1894.

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on 5th inst. Present Dr. Traill (in the chair), Mr. O'Bryen, Captain Millner, Mr. Read, Mr. Gillies, and Mr. Chenevix (hon. sec. 15, Morehampton Road, Dublin). It was reported that a satisfactory scheme had been arranged with the Congested Districts Board for the expenditure by them of £200 in the promotion of apiculture. Much evidence has been collected in support of the British Bee-keepers' Association's application for legislation to stamp out foul brood.

DEATH OF MR. HENRY NEIGHBOUR.

It is with much regret that we announce the death of Mr. Henry Neighbour, senior partner in the firm of George Neighbour and Sons, of High Holborn, who passed away on the 21st inst., after a few days' illness, caused by congestion of the lungs, in his 72nd year.

A melancholy circumstance connected with the above event occurred in the death, on the morning of the same day, of Mr. Neighbour's only sister, with whom he (being a bachelor) had lived all his life. Miss Neighbour was several years older than her brother. A close and loving intimacy of over seventy years was thus terminated by the death of brother and sister within a few hours of each other.

MEAD

MADE FROM A RECIPE 190 YEARS OLD.

"*How to make English Canary no way inferior to the best of Spanish Wines.*"

"One hundred and twenty pounds will make a barrel of very good mead; but if you make it of clear honey, then your best way is to allow 4 lb. to every gallon of water. Let your quantity be much or little, which you ought to govern yourself by either considering the bigness of your cask or the quantity of honey you have to make up into mead, mix it in your copper, and then boil it an hour, and scum it well, which scum you may strain through Hippocrate's sleeve, or a taper bag, made of swan skin, with a hoop at the broad end, letting the narrow end come to a point. This bag will make it as fine as the other, through which you may put it. When your mead is almost cold, Tun it up, clay it down, and let it stand till it is fine, and old enough to drink, which sometimes will be sooner than other, according to the time of the year and weather that comes upon it after making. This liquor is one of the choicest of wines, as well as the most wholesome of all vinous liquors in the world, and ought to be drank and made use of in possets, &c., as canary; and thus used, it is impossible to know whether the posset was made of your own mead or canary.

Thus for making of mead with clear honey. But if you do it with the washings of combs, or dissolve all your honey from the combs, then you must dissolve it in warm water, till an egg will swim in the mead the breadth of a shilling. But here you must be very careful, that before you break your combs into the sieve, or strainer, you separate all the young bees, which you may easily know, from the honey, and also the Sandrach (or bee-bread), which is a yellow substance, with which some of the cells are filled, which otherwise will give your mead an ill taste, and then proceed to boil, scum, and turn as before. It is best if it be kept till it is a year old; and if you make it well (as before) it will keep as long as you please."

[The above recipe is from Dr. Warder's work on bees, published at the beginning of the 18th century. The correspondent who forwarded it also sent a sample of Mead made in March last, according to the directions given above, and it is certainly one of the finest samples we have ever seen and tasted.—EDS.]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

THE "BEE JOURNAL" AND ITS READERS.

[2240.] I wonder whether you realise what an unquiet time you give to many of your readers? Now it is "foul brood," a little while ago it was "balled queens;" I have never seen the latter, and never smelt the former. I read your journal diligently, and each time as I lay it down I sigh, "Who would be a bee-keeper?" Now and then I foolishly take the trouble to make a disciple;

how scared they always are at first about foul brood—"Is this it?" "Is that it?" A comb laden with pollen is enough to give a fit to a tyro, for, of course, they read the text-books, which delight and revel in enlarging upon foul brood. But, seriously, can you not help us to the cause or causes of the evil, for "prevention is better than cure," and as a cure in the case of foul brood seems hopeless according to your journal, prevention becomes of the utmost importance. 1. May not old combs used year after year in the brood-nest have something to do with it? It costs an effort to cut up and run down an old worker comb; as it stands it seems valuable, melted it gives an ounce or two of wax (*pace* Mr. Wells, 2226, p. 64), so back to the hives it goes. I date all the ends of my frames, and after three years the combs are taken out, the frames well scrubbed, set up with foundation, re-dated, and then off again; yet even so a frame escapes me now and then, and I found a comb last autumn eight years old! 2. May not the visits of experts have something to do with it? Under your compulsory powers you will, of course, have a head inspector to keep an eye on the working inspector to see that he is properly disinfected, and to burn his clothing once a week at least! But, now, who looks after the experts? They go from one apiary to another, and I am so ignorant as to think it possible that they may carry the seeds of the disease about the country. Do, Messrs. Editors, reassure us by saying that such a thing is impossible; throw just a little gleam of hope over this black cloud of foul brood that hangs at present over your paper and over our craft. I could suggest other causes—real or imaginary—which enter into my mind, but could not *you* give us a short list—or a long one, if you like—of what we ought to do and what we ought to avoid so as to keep this pest at arm's length? Stamping out is all very well: escaping the plague is better. 3. Does bee-keeping *pay* in the money sense of the word? I doubt it very much. Shall I write you a letter about that?—R. S. Routh, *Longstock Vicarage, Hants, February* 19.

[We congratulate our correspondent on never having "smelt" foul brood. Long may his present immunity from *this* trouble continue. For ourselves, we fully realise the "unquiet time" felt by, alas, too many of our readers whose bees have suffered from it, and who are themselves suffering from its consequences. Those who are troubled in imagination only need not concern us much. It does, however, seem to us somewhat paradoxical for our esteemed correspondent to complain of the text books which, according to him, "delight and revel in enlarging upon foul brood," and then request us to further enlarge upon the "evil" by entering into a dissertation on the causes thereof in our pages. Nor can we take as other than a bit of playfulness his affectation of ignorance as to the cause of foul brood and its effects on bee-life. Few persons of to-day, possessing ordinary intelligence and average education, fail to realise the fact that fevers, and numerous diseases of a like nature, are caused by the presence in the body and blood of the animal so affected, of certain minute germs which—under favourable conditions, and if not themselves destroyed—increase so rapidly and enormously as to destroy life. Besides, after all that has appeared for years past in our pages on the subject referred to, we cannot take "seriously" our correspondent's appeal for help as to the cause of foul brood.

Our entire agreement that "Prevention is better than cure" goes without saying, in face of our persistent advocacy of the constant use of preventives, and of a continuous advertisement of those being on sale at this office. The other questions put may be replied to as enumerated:—1. No. Old combs cannot of themselves generate foul brood. It is, however, advantageous to renew combs as soon as they become old and offensive from the cells being choked up with hard mouldy pollen or any other cause; besides, the danger of combs becoming infected with disease carried into the hive is lessened by renewing them every two or three years. 2. All reliable authorities insist on disinfection of the clothing of anyone manipulating diseased colonies of bees, be they experts or otherwise. Our invariable insistence on this precaution led us to innocently believe that all our readers knew of and appreciated the necessity for it. 3. Speaking generally, it may be said bee-keeping pays, or fails to pay, according to the aptitude or otherwise of the bee-keeper, and the abundance or scarcity of honey-producing flowers in the district the bees work over. We fancy this is fairly well demonstrated in the reports recorded in our pages from time to time. We shall, however, be very pleased to get our correspondent's promised letter on the subject, though our hope of *his* success is somewhat discounted beforehand by his closing words—"I doubt it very much."

We do not care to parade our personal success with bees, though our experience has been a very satisfactory one; it may, however, in some degree serve as a further reply to the third query to say that Mr. W. McNally, of Glenluce, N.B., records having taken 18 cwt. of honey and sold thirty-eight swarms from his apiary of 102 hives last season, besides increasing his stock to 108 hives, all fit to stand the winter. Another bee-keeper is mentioned in same issue of the *Record*, as having secured just on 1,000 lb. of honey from his twenty stocks of bees in '94, before taking them to the moors for the heather harvest.—Eds.]

SELF-HIVERS.

[2241.] After reading the articles on Self-hivers contained in your issue of December 27 last, it occurred to me that a record of our experience with one might interest a few of

your readers. Owing to the general backwardness of the weather, and more especially the severe frosts which were so prevalent in the month of May, bees, except in a few cases, did not swarm till well on in June, thus losing to a great extent the benefit of the new colonies for the clover season. The swarm with which we experimented was the second from a hive, which had already swarmed on June 27. The hiver used was made of ordinary queen-excluding zinc, bent into the form shown in the accompanying diagram (Fig. 1). This we placed so that the

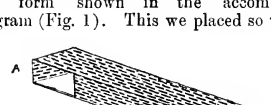
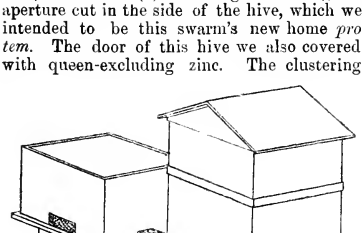


Fig. 1.

opening (A) covered the entrance of the old hive, the end (B) covering a rectangular aperture cut in the side of the hive, which we intended to be this swarm's new home *pro tem.* The door of this hive we also covered with queen-excluding zinc. The clustering



began about the entrance on July 6, and we placed the hive in position. The bees then had no inclination to remain inside the hive, nor to walk obediently into their newly-prepared home, but flew about to a greater extent than when swarming naturally. From observations made on that day we considered that, in order to be perfectly successful, we must guide the bees as well as the queen. On the early part of the 7th, a bright and warm day, they still exhibited the same exceptionally restive disposition, and it being the tenth day after the first swarming we were almost certain of an exodus taking place. Seeing the state of affairs we procured pieces of clear glass, cut to such a size that they covered the zinc hiver except at the entrances A and B, and the end next A. The placing of the glass over the zinc and applying a cloth scented with carbolic acid to the end of the hiver was the work of a few seconds. No sooner had the bees' senses become affected by the acid fumes than they were greatly agitated, and early in the afternoon ran in a continuous stream right through the hiver into the new hive, but unfortunately the queen-excluding zinc which covered the entrance to this hive did not prevent the swarm, accompanied by its young queen, from passing through and flying. From this it would seem that one of the chief principles in the construction of a self-hiver is that it shall control the workers, and in so doing the actions of the queen will also be governed; for it does not seem at all likely that the queen would lead the van in escaping through the excluding zinc, but rather that she was carried along with the bees through the hiver and the excluder. This escape would also lead one to believe that however useful queen-excluding zinc may be in preventing the thoroughfare of elderly queens, it is deficient when the queen is very young. We wrote you some time ago regarding drones in November, but the continued spell of good weather breaking, prevented us from opening up the hive for examination. Since then we have examined, and found everything in a normal condition. The only conclusion we can come to is that the fast-feeding had caused the bees to fill the combs except at the bottom, and the weather being then favourable for breeding, the queen had been forced down among the drone-cells—hence their appearance at such a season.—J. K., *Uddington, January* 4.

HINTS FOR DISCUSSION.

[2242.] I thank my would-be mentor, Mr. Brice, for his letter (2232, p. 74). I may add I am not convinced by his sophistries, and to those of my readers who feel any interest in this subject, I say get a copy of Dr. Howard's work, and read for yourselves. Probably Messrs. Neighbour, High Holborn, supply the book, 1s. to 1s. 6d. each. Regarding these letters on the foul-brood question as not altogether a waste of space, I will, with your permission, reply shortly to Mr. Brice. 1st. No regrets either expected or hinted at even between the lines in my last (page 66). Thanks for pity of my position on the borderland of science; possibly Mr. B. thinks I am on a quicksand because I have, forsooth, ventured out of the beaten track. Mr. Brice may differ from me on the estimate or value we attach to Dr. Howard's work on foul brood. I am content to remain in the company I am with in estimating its value. On this matter we will agree to differ. Regarding Mr. Cheshire's fanciful theory that adult bees from "foul-broody" hives carry the germs and contaminate the flowers with them, and another bee from a healthy colony visiting the flowers, takes the germs, and carry the same to the hive (possibly miles away), and infects the healthy colony with disease—this I make bold to contend was a "phine phlight of phancy," and is not, neither is it likely to be, in my line. The fact is not positive. Other facts of "Cheshire's" I accept. In fact, I look on his work as the *magnus opus*

on bees and bee-keeping. I challenge Mr. Brice or anyone else to point out a single sentence, line, or word where I have expressed any opinion against "an act dealing with foul brood." I flatter myself I have endeavoured to keep the matter to the front during the past few months. Either I must be sadly ambiguous and abstruse, or Mr. B. very obtuse, for such a mistake to receive credence on his part. My aim has been, and will be in the future, to not only get the new "weapon," but also to know how to use it when we have got it. I hope that when we get the "compulsory powers" we shall be in a position to give our inspector or inspectors full instructions how to deal radically and rationally with the pest, and that we shall also give compensation for property destroyed *pro bono publico*. And if it comes to *personal feelings*, allow me to tell my friend that I am waiting—aye, ready—for the power to stamp out a disease that is marching on me and mine. By degrees it has got three miles nearer to me during the last year or two than formerly. This very fact has roused me up to study the thing in all its bearings, and a close reading up of the methods of cure. And I may add, as far as "stakes" are concerned, I opine I hold as many as any man this side the Tweed. Mr. Brice accuses me of "twisting" statements of others to suit my own purpose, &c. If our readers who have the book will verify for themselves, they will find Mr. Brice guilty of what he accuses me. As an instance, take his par. 4, page 75, B.J., 2nd col. Prop. I., page 10, reads as follows (continuing Mr. Brice's quotation) :—"I have found *Bacillus alvei* present in all cases of foul brood examined, in brood of all ages, in the dry coffee-coloured masses, and in the honey in the adjacent cells; and where the spores were found as in the dry masses, and in the honey, pure cultures have been obtained which in turn produced spores."

In next par. Mr. B. misquotes. Dr. Howard says :—"Further investigations in this line will be necessary to prove positively that putrefaction would not take place in the presence of these bacilli alone." This sentence is written after a par. *re* his experiments with cultures of foul brood, *bacillus alvei*, and other bacteria, in a moist chamber. Again, Mr. Brice says :—"On page 19, Prop. V., is an account," &c. With the book in my hand as I write, I find, first, a microscopical examination of the masses found in the open or unsealed cells containing honey, the spores and bacilli were found. To make sure, Dr. H. carefully examined the cells which were capped by the bees, and in nearly every instance was found these same hard masses of old foul brood. These were carefully dissected and examined, and found to contain spores and bacilli, from which cultures were made. "My next trial was to take the honey removed without disturbing the cell walls, and examine under the microscope, which revealed both spores and bacilli suspended, from which pure cultures were obtained." I ask any sane person if such conclusive facts are not enough to make any one who keeps bees to lay stress on honey as the principal medium in spreading the disease; bees will not attempt to rob out a stock of dead bees unless honey is in the hive. Without honey there is no incentive to rob.

Now contrast the following excerpts in confirmation of what I have written previously, and see if I have mislead your readers. On page 33, Dr. Howard says :—"From my own observations, I must conclude that spraying the combs will not reach the germs in the honey or the spores in the glue-like dried masses entirely submerged with the honey in the cells, sealed or open; nor will feeding medicated syrups to old bees in a 'foul-broody' colony cleanse the 'feet and antennæ,' or purify the combs containing the foul masses, or the foul cells in which the eggs are deposited by the queen, even though it might eradicate the disease from the old bees which has not the power of re-infection." This confirms what I wrote on page 44, B.J., January 31.

Dr. Howard criticises the work of Mr Cheshire, of Mr. McLain, of Professor Mackenzie, and lastly, of Mr. McEvoy, in the last twenty pages of his book. Space forbids extracts of any length, but I think the following closing paragraph in the work, page 47 (except a list of scientific works) : — "Thus it will be seen that, though McEvoy's method of treatment, which was at first so unpopular, and seemed so far from being correct, has, much to my surprise (and need I say disappointment) been shown to be the only rational method laid down among all the writers on this subject."

Mr. Brice should re-read the work again before he states what he does in his last par, B.J., 76. Dr. Howard's experiments, as enumerated from his book, I find as follows : —P. 11, examination of nearly 100 dead pupæ; p. 12, treatment of pathogenic and non-pathogenic germs in a moist chamber ten days, and extended experiments to prove the quiescent character of foul brood germs in comparison with ordinary putrefactive germs; p. 13, examination of a supposed case of foul brood in a Texan apiary, in which was found no bacilli in either combs, honey, or brood; p. 16, culture of *bacillus alvei* from honey; p. 17, cultures on gelatine under mica plates in a dry-air chamber, and stab cultures on agar agar—also pure cultures from honey showing that the antiseptic quality of honey does not destroy the bacilli, though it is not a media suitable to their growth; p. 19, microscopical examination and more cultures; p. 20, experiments in ten tubes of gelatine exposed to boiling point—lasting seventy-two hours; p. 21, a series of similar experiment exposed to low temperature, a

low as 5 deg. below zero—also of trial cultures exposed to atmospheric air for seventy-two hours, and results. These experiments are no more second-hand than was Mr. Cheshire's experiments at the Healtheries in 1884. Then we have par. as previously referred to in this reply as from p. 33 of Dr. H.'s work. Work such as above is surely worthy of something better than a sneer—as a second-hand collection—in which Mr. B. indulges, p. 75 B.J. —W. WOODLEY, *Beedon, Newbury.*

THE CURE OF FOUL BROOD.

[2243.] Some interesting observations on this subject at the conversazione last Thursday suggest a modification of the ordinary treatment of the disease. It was laid down by Mr. Cowan—than whom there can be no higher authority—that the foul brood bacillus can be easily destroyed, but that the spores are almost indestructible, and unless they are destroyed the disease is almost certain to break out afresh.

Mr. Cowan considered the naphthol beta treatment perfectly satisfactory for destroying the bacillus, but not the spores; and he stated emphatically that the latter could not be destroyed by sulphur fumes, carbolic acid solution, &c.

Mr. Bancks' experiments have satisfied him that the fumes arising from bromine poured into a saucer will destroy the spores; but there is a difficulty in applying this remedy to a hive of bees, as it kills the brood, and it kills the bees also if not used in very small quantities.

Does it not follow that the bees should be treated with naphthol beta, and that in bromine we find the very thing that is wanted for easily disinfecting all hives and appliances?

Mr. Bancks' valuable discovery will, I hope, before long be confirmed by further experiments; and perhaps he and Mr. Cowan may be good enough to give to your readers their views on the above suggestion?

At the conversazione objection was taken to painting hives inside; but I for one should certainly do so (after disinfecting them), taking care to fill up all joints and cracks with paint, and thus sealing up any spores which might not have been sufficiently exposed to the bromine fumes. For about eight years I have used one or more hives painted inside. Indeed, in one case I put in the bees before the paint was quite dry, and they seemed none the worse, though they rubbed off most of the paint.—T. F. L., *Brondesbury.*

HINTS FROM ABROAD.

[2244.] I was glad to read your reference to "Hints from Abroad" on page 73 last week, being anxious to know your opinion, especially with regard to petroleum for checking "robbing" in extreme cases; and supers with frames across those in brood chambers to keep queens below. On the question of "fanning" at doorways in winter, let me say—the sun being quite warm on the 19th, my bees had a good fly, and, while looking at the entrances, I noticed an unusual kind of "fanning" going on at one of the hives. Suspecting something wrong, I lifted the quilt, and I found the largest part of the bees half-dead; in fact a good many had dropped on to the floor-board, apparently lifeless, except for an occasional move of a leg or wing in a bee here and there. I sprinkled them with warm syrup, which soon revived them. With plenty of stores in the hive, the bees evidently could not reach them, owing to the cold. I was, however, just in time to save their lives. I have lost three or four lots this winter the same way. Being away last autumn, I did not give them winter passages in the usual way—thus they were starved with plenty of food close at hand.—O. BROWNING, *King's Somborne.*

THE FROST.

EFFECTS OF SEVERE WINTER ON BEES IN SUSSEX.

[2245.] Taking your "Hints" on page 61, and feeling my bees required some attention after 38 degrees of frost on February 17, I made an inspection of our five hives with the following result:—No. 1. Quilts rather damp, top one quite frozen, candy all gone, a little honey in comb, bees looked hopeless and lifeless. This was my strongest swarm last summer. I dried the covering and placed back with a cake of candy, although I fear this lot is gone. No. 2. Candy all gone, bees appeared almost in a state of stupor; gave them cake of candy, and trust they will come all right. A few were flying out of this lot. No. 3. Much the same as No. 2. They had built a piece of comb from where the candy was laid, and were very active until the cold weather came. I fear these are gone also. Gave them a lump of candy and hope I am mistaken, although I fear for them. No. 4. Flying out quite like summer. This was my weakest lot. They were so lively I could not inspect properly, so pushed a lump of candy on to them, and one rewarded me with the first sting of the new year for my pains. No. 5. These I have down at my house; they were a late cast, and were working nearly until Christmas. These were also out flying to-day. The coverings being very mouldy, which I changed them, and gave bees a lump of candy; the bees appear quite strong considering they were breeding late. Many dead have been thrown out from this lot.

I suppose it would be better to wait before giving the doubtful ones up entirely to see if warmer weather will bring them round again. The combs would, in any case, be none the worse, I should think, from bees dying on them, if they should really be dead? Unfortunately, I cannot bring them indoors for reviving the bees, four lots being over a mile from my house. Why should some quilts

and coverings get mouldy I cannot make out, while others under the same circumstances do not. This is my first winter with bees, not more fortunate, I fear, than my first summer.

How can I prevent bees building comb on to the feeders in summer? With me they attach quite a piece of comb to the wooden part of the bottle-feeder, which seems to me a waste of time. Is this usual, and can it be prevented?

Thanking you for your hints, which I took the first opportunity of putting into practice. —S. T. BADCOCK, *Bexhill-on-Sea, Sussex, February* 16.

[It is just possible a subsequent inspection, after the departure of frost and the few warm days which have followed, may have revealed a more hopeful condition of things. The past winter has, however, been exceptionally trying to bees, especially in inexperienced hands. Combs on which bees have died from causes other than disease may be used again. There must be some defect in the construction of the feeders referred to. No space should be allowed on the underside sufficiently deep for the bees to fill it with comb. Such a thing is most unusual.—EDS.]

AN ARCTIC WINTER.

[2246.] How are the poor bees getting on, I wonder, in these arctic regions about 1,000 ft. above sea level, with the thermometer for a full fortnight steadily below freezing-point, and on more than one occasion recording −17 deg., or 49 deg. of frost? Christmas Day was fine and mild, and my bees had a splendid cleansing flight. Since then for eight weeks the hives have been covered with from 1 to 3 ft. of snow. I trust this may act as a blanket and shield them from the extreme cold. Populous hives, well provided with stores, may survive, but all weaklings must go to the wall. It will be the survival of the fittest only. I must specially note results and record matters at a later date. At mid-day, when the sun is beating down in fiery but chilling grandeur, I noticed a neighbour's bees (the hives not being covered with snow) issuing in considerable numbers to have a look round. But woe betide the luckless adventurers, for certain death awaited one and all. When they fell it was to rise no more, and their death was so sudden that they never made the least motion. Our "Church bees," too, were thus tempted out in large numbers, and were lying in thousands all round the sacred edifice on Sunday last. This fate, I feel thankful, mine are at present spared, but whether a worse fate may await them time alone can tell. Animal life has suffered to an unprecedented extent. Hares and rabbits are mere skeletons, and are dying in large numbers. Grouse are succumbing fast, and are preyed on, even before life is extinct, by flocks of starving crows. Deer from the neighbouring forests are famishing, and roam quite near houses. Small birds are scarcely now seen, having migrated to warmer regions. Higher creation is suffering, too, and even the necessaries of life are running out in many of our retired glens. The road to our market town is blocked with snow, and no vehicle has come near us since the New Year. Attempts were made several times to cut the roads, but again and again they have drifted in worse than ever. Seeing that higher and lower creation is thus suffering, it is natural that apiarists should begin to feel anxious about their bees hid away beneath such piles of snow. While it was freshly fallen it was open, light, and porous, and the hives had a fresh supply of air I doubt not. Now, however, it has got hardened to the consistency of granite, and I question if what air now surrounds them is not stagnant and vitiated. I would on no account remove any of the snow, as I don't doubt it is a safe-guard—at least, until the thaw sets in. I have, however, pierced holes near the *sides* of the hives to act as ventilators. If a recurrence of this extreme season takes place we should make some experiments on the American cellar plan of wintering.—D.M.M., *Banffshire, N.B., February 20th.*

BEE ASSOCIATION FOR SUSSEX.

[2247.] The Sussex Bee Association does not appear to be making very much progress yet. We hope the matter will not be allowed to drop. Surely there is sufficient bee-keeping zeal in the county to support an association. I venture to make a suggestion in order to ascertain how many there are ready and willing to join an association if such were formed, viz., that every one willing to become a member should send a post-card with their name and address to some person who would transmit the list of names to the promoters of the association.—HY. NEVE, *Heathfield, Sussex, February* 24.

COUNTY ASSOCIATIONS AND COMPULSORY POWERS.

[2248.] As many county associations are now about holding their annual meetings, I write to suggest that they might greatly help the parent association, in the endeavour to secure compulsory powers for dealing with foul brood, if they were to pass resolutions supporting the efforts of the B.B.K. in this matter. Copies of such resolutions could then be forwarded to the members representing the several counties and boroughs wherein the associations are established, praying them to support the passing of any bill brought into the House of Commons for the purpose.

A resolution to the above effect was proposed by myself at the meeting of the Bristol B.K.A., as reported in your issue of last week, and passed unanimously.

When the hoped-for "Foul Brood Bill" is

ready for introduction into the House of Commons, copies of the resolution will be forwarded to the four members for Bristol, and also to the members for North Somerset and South Gloucester, asking them to support the bill. Our association covers the whole area represented by the six members referred to, four of whom, I am pleased to say, are vice-presidents of our association.—J. MARTIN, *Bristol B.K.A.*

NORTH DEVON BEE-KEEPERS.

[2249.] Referring to 2218 (p. 56), asking where are the "Enthusiasts" in Devon? I may say that if they do not make their names public, there are plenty in the county interested in the bee-keeping industry. With respect to the foul-brood question, I have carefully read all that has appeared on the subject in the B.B.J., and have arrived at the conclusion that it is time to adopt compulsory measures with a view to stamping out the disease, and would willingly do anything in my power to help on the object. But I think there should be some compensation, where hives are only slightly affected, if such are destroyed.

I have twenty-three frame hives, but as yet have had no experience of foul brood. I always keep naphthaline in the boxes, and generally use carbolic when manipulating. A friend and neighbour also keeps about twenty-five hives, and I should consider there are about 150 frame hives and skeps within a radius of a few miles. Four or five of these I know are badly affected with foul brood, and have been for several years. One bee-keeper who has left the neighbourhood had about twenty frame hives, a great many of which were badly diseased. On leaving, he took hives, bees, combs, and all with him, thus helping to spread the disease in his new locality, which would have been prevented had the act we are striving for been in force.

Another bee-keeper friend, who resides two miles away, has four or five hives, one of which is affected. He burnt the bees, combs, and frames, burnt sulphur in the box, washed it out with strong carbolic solution, and gave the box two coats of paint inside and out, put in a healthy stock of bees, and those are the ones now diseased and at present in the hive. After this, will Mr. McEvoy tell us how those bees got infected, as there could not possibly be any honey about? He always keeps naphthaline in his hives, and last autumn fed them up with syrup medicated with naphthol beta. The other hives are not affected. This bee-keeper is strongly in favour of bringing all diseased stocks to light, as he says no good can accrue from keeping it secret. As I consider the diseased stocks above-mentioned (and there are probably many more) a source of danger to my own, I have decided to spread mine about in small lots several miles apart. Last year was a very poor season with us. The average was about 10 lb. per hive, and some got no surplus whatever, and had to be fed to be kept from starvation. In 1893 I had eleven hives, and had an average of 49 lb. per hive.—F. G. LETHEREN, *Chulmleigh, North Devon, February* 13.

MR. WELLS AND HIS CRITICS.

[2250.] In reference to your correspondent Mr. T. F. Ward (2235, p. 78). It appears to me that nothing I can write will convince Mr. Ward of his errors, so I will not trouble him any further in that way. I may, however, be allowed to say that all I have in the bee line is open to his inspection at any time, and I should be most happy to explain anything or everything on the spot should he think it worth his while to visit me, where he will find the hospitality of a friend.—G. WELLS, *Aylesford, Kent, February* 22.

BEE-KEEPING AT COVENT-GARDEN.

[2251.] Just by way of showing how curiously the lately-awakened interest in bees and bee-keeping on the part of the general public displays itself, I send you a cutting from a leading morning paper wherein appears an account of the fancy dress ball held on the previous evening at the Royal Opera House, Covent-garden. Referring to the three most noticeable costumes in the competition for a dress displaying originality of design, &c., we read:—"The next notable dress was entitled "Honey, my Honey." This was of satin, trimmed with sunflowers, a bee-hive for head-dress; bees were painted on the skirt, honeycombs rested on the shoulders, and a large sunflower was carried in the hand."—DOMINO, *February* 16.

[We are not told what sort of bee-hive was worn for the head-dress, but charitably hope our old friend the straw skep was adopted, seeing that under no condition can we imagine the fair wearer winning a prize—other than a "wooden spoon"—for beauty of a costume which involved the carrying a bar-frame hive on her head!—EDS.]

Queries and Replies.

[1233.] *Working for Extracted Honey.*—I intend working for extracted honey this season. Will you, therefore, kindly advise me on the following?—1. Which are the best kind of shallow frames for extracting, the wide self-spacing frame, or the ordinary narrow frame, with wide or narrow ends? 2. Should full sheets of foundation or starters only be used in shallow frames? 3. Is it necessary to use queen-excluder above brood chamber when working wide combs in supers?—A NOVICE, *Yorkshire, February* 26.

REPLY.—If you have the ordinary shallow

frames on hand we should advise retaining them, and having a supply of both wide and ordinary "ends" for use according to the season. But, if laying in a new stock of frames for extracting, we should have them made $1\frac{1}{8}$ inches wide, on all sides, with "lugs" shouldered back to $\frac{7}{8}$ width take both wide and narrow ends. The question of working extra thick combs for extracting is also entirely one of personal preference, and it would be unwise to decide beforehand and without trial. 2. We prefer full sheets. 3. Yes.

[1234.] *Cause of Weak Stocks Perishing.*—The weather here, as in other parts of the kingdom, has been terribly severe. Early bee-forage will consequently be very backward, and a cautious peep to see how stores are will be absolutely necessary. Fortunately, a day or two before the frost set in I had given to each hive a cake of candy to make sure of supply, and from the lively appearance of some of the occupants of the hives so treated, they are evidently all right. In one hive, however, there were so few bees that I considered them too few to unite, so, as they had plenty of food, I covered them up pending consideration, but on looking at them yesterday I found them all dead. I enclose the queen. Is she fertilised? If not, that would be the cause of the mischief.—H. LANDER, *Wadebridge, February* 19.

REPLY.—Queen received has evidently been fertilised. The cause of death was no doubt loss of vitality through cold, owing to paucity of numbers.

[1235.] *Bees "Fanning" in an Arctic Winter.*—I have two hives in my apiary, and both have what I take to be streams of condensed vapour formed into icicles and reaching from the entrance right across the alighting board. The bees in one (a single-walled hive) were busy yesterday turning out a mass of dead and a number of dying bees. With a bent wire I drew out a large quantity of dead bees, mixed with the uncappings of the combs, and much signs of dysentery. The most remarkable thing, however, was that in this particular hive the bees were vigorously fanning at the doorway in the afternoon of yesterday and to-day with the thermometer at 30 degrees, while during each of the previous nights the thermometer had sunk to 8 degrees at four feet above the ground, and to zero on the grass. As there can be no want of food in any of my hives, can you say why condensed vapour should come out of these two hives, and why "fanning" should take place in one of them in the depth of winter?—R. J. P., *Linkwood, Elgin, February* 19.

REPLY.—"Fanning" in the case referred to probably proceeds from an effort on the part of the surviving bees to rid the hive of the foul atmosphere caused by the dysenteric symptoms described. Advantage should be taken of the first warm day to ascertain the cause of "condensed vapour" running out at entrance. It may proceed from so many opposite causes that it is quite unsafe for us to judge at a distance and from details given above.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

BEGINNER (Hinckley).—*Smoking bees.*—If the bees are so cross as stated, a little smoke will always be necessary when lifting the quilts for manipulating purposes. Do not overdose the bees, but give just sufficient to prevent them from taking wing whenever they begin to fly viciously. We do not advise your interfering with the combs built across the frames, under all the circumstances.

F. G. LETHVEN (North Devon).—*Moving hives.*—We should take the earliest chance of moving the hives while weather is cold and there is little brood in the combs. The frames will require making firm and rigid for transit, when, with care in handling, they will take no harm at this season. Mr. J. Huckle, King's Langley, Herts, will furnish you with all information as to experts' exams.

J. T. PRESSLEY (Chesterfield).—*Bees Dying.*—1. Your note does not make quite clear whether only the one stock of Carniolan-Italian hybrids, or all three stocks have perished. But there is no sign of dysentery on the piece of comb received. 2. The "jellyfied stuff"—as you term it—is simply pollen which has had its surface covered with syrup by the bees during feeding up time last autumn. No doubt the dead bees in cells would cause the foul smell. 3. If there are no more signs of dysenteric discharge on the other combs than on the piece sent, they may be used again with impunity; otherwise they should be melted down.

GREENHORN (Farnham).—*Transferring Skeps to Frame Hives.*—1. The "staining marks" about entrance are merely the result of the bees' long confinement. So long as all is clean within the hive no alarm need be felt. It is too early to give syrup food. 2. Do not drive the bees at all in April, or put excluder zinc between skep and frame-hive. Let the bees transfer themselves to the latter, as they will when room is wanted for breeding purposes. Then remove the skep as a super when filled.

ANXIOUS (Guildford).—*Transferring to Standard-size Frames.*—As the odd-sized frames are already filled with patched-up combs from skeps, we should not retransfer them at all, but allow the hives to swarm, and let the bees stock the new hives with new combs. Better all-round results will thus be obtained.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

CONVERSAZIONE.

The quarterly conversazione was held after the conclusion of the annual meeting, at 6 p.m., when among the large audience assembled were the Hon. and Rev. Henry Bligh, Revs. G. W. Bancks, W. B. Burkitt, and E. Davenport, Miss M. Eyton, Mrs. Bancks, Major Fair, Messrs. R. T. Andrews, H. W. Brice, J. S. Baldwin, T. W. Cowan, W. B. Carr, F. J. Cribb, J. Garratt, W. O'B. Glennie, J. S. Greenhill, J. M. Hooker, W. H. Harris, H. Jonas, F. H. Meggy, W. Soar, J. C. Walthen, &c.

Mr. Glennie, having been unanimously voted to the chair, opened the proceedings, and invited the members present to initiate a discussion on any subject of interest to bee-keepers. Possibly it might be advantageous to further consider any of the topics which had been incidentally referred to at the earlier general meeting,

Mr. Harris, in response to the suggestion, asked whether the time had not arrived when the term "foul brood" might be discontinued, and a more appropriate one chosen to designate the disease. The use of that name was misleading, especially to cottagers, because it allowed of the inference that if the brood were destroyed the disease could be eradicated, which, as they all knew, was far from being the case. Perhaps it would be said in reply to this that the term had now become so naturalised that there was no danger of the kind to be feared; but those who had to examine from time to time bee-keepers and experts knew what a vast amount of ignorance on the subject prevailed, even among experts. He suggested that the association should henceforth drop the name "foul brood," and adopt some other—"bee pest," for example. The cattle plague was denominated "rinderpest," and the greatest plague of bee-life might be called "bee pest." The editors of the B.B.J. might adopt the latter, or some other more suitable expression than "foul brood," and recommend that their example should be followed, when the desired change would soon be brought about.

Mr. Cowan thought it quite possible to change the name, but did not see the necessity for it, as the term "foul brood" was now well known all over the world as the designation for a certain disease. The name originated from the Germans, and could be traced back at least 130 years, long before which it was known that brood had rotted, and the Germans defined this condition as rotten brood—"Brut faulniss," or "Faulbrut," from which had arisen our English term of foul brood. He did not see any value in changing the words to "rotten brood," which, however, would be a literal translation of the German title. He objected to "bee pest" as too general, although this was one of the names given to the disease in Germany. If any change was adopted there would be confusion, because the alteration of name could only be carried out as regarded England, and other English-speaking countries would probably not adopt it.

Mr. Andrews considered the term "foul brood" most expressive, because it described exactly what it was. The words "bee pest" applied equally well to dysentery, and we might say "tom-tits," &c., for certainly tom-tits were bee pests.

Mr. Webster said some one had suggested "bee-thrax." He did not think there was the slightest use in changing the name, which was derived from the effect, not the cause, just as in the case of black fever, yellow fever, and scarlet fever. The term was known throughout the world, and the special features of the disease also, and the adoption of a new name would lead to endless confusion.

Mr. Harris reiterated that his chief reason for desiring the alteration was because the words "foul brood" seemed to suggest that if the brood was destroyed the disease was stamped out, whereas the destruction of the brood was only a small part of the remedy necessary to banish the evil from an apiary.

Mr. Hooker thought that if the brood were destroyed in every case there would be very few bees to transmit the disease. Whatever conclusion that meeting might come to, every English-speaking nation would continue to call the evil foul-brood.

Mr. Cribb asked whether a word could not be added to indicate the infectious nature of the malady.

Mr. Baldwin feared a change of name would do little good; besides, "foul brood" was more expressive than "bee pest." He agreed that the mere destruction of the brood was quite insufficient to stamp out the evil. He thought it would be better to keep to the old name, and spend their time and thought, and experiment, in trying to get rid of the disease.

Mr. Cowan quite appreciated Mr. Harris's reasons for suggesting the change, as the words certainly did not convey to the minds of uneducated persons the danger and extent of the disease. They knew that not only was the brood diseased, but the workers, drones, and the queen also. This Mr. Cheshire had shown by his microscopic examinations, and Hilbert had proved also that the queens were diseased; they were aware that hives carried the infection; also that swarms put into hives that had contained foul brood sooner or later became affected therewith. Those were arguments in favour of the alteration; nevertheless, he did not see his way clear to adopt a better name, and instead of changing it, he thought it was their duty to impress on bee-keepers the immense danger of foul brood, the difficulty of curing it, and the necessity of strict precautions against it.

Unfortunately, people were careless in the matter. They had a report from the Middlesex Association, from which it appeared that a bee-keeper had actually taken out of a hive pieces of diseased comb, and thrown them on the ground for other bees to clean and suck up the honey. It was impossible to find a name which would cover every phase of the disease; and, considering that the present one was applied all over the world, he did not think it expedient to change it.

Mr. Garratt sympathised with Mr. Harris in his desire to find a less unpleasant sounding and more comprehensive term than foul brood; but he must admit that those words described the disease in its most distinct form. At the present time the name was universally adopted, and therefore the obstacles to changing it were very great.

Mr. Carr said that personally he regarded with alarm the proposal of Mr. Harris that the editors of the B.B.J. should take up the task of changing the term "foul brood," and was not a little pleased that the feeling of the meeting appeared to be against the suggestion. The word "brood" should, he thought, not be left out in the designation. That was the bee-keepers' indicator. He never looked at the queen or the bees to ascertain whether the hive was healthy, but always wanted to see how the brood was hatching out in order to tell whether it was diseased or not.

Mr. Meggy considered the term "foul brood" was as suitable as could be found unless they gave a definition extending over a couple of lines of the B.B.J.

Miss Eyton asked if "infectious foul brood" would do; to which Mr. Carr objected that all foul brood was infectious.

Mr. Harris said he had raised the question for the purpose of discussion, and would now withdraw his proposition for the present, so that bee-keepers might have time to think over the subject with a view to adopting some more suitable name.

Mr. Till appreciated the objections of Mr. Harris, whose profession led him to look for exact expressions to convey thoughts and meanings.

The Chairman thanked Mr. Harris for introducing the discussion, but thought there would be no possibility of making the desired change, since the term "foul brood" was universal throughout the world, and any attempt to alter would inevitably lead to confusion, especially among cottagers.

Mr. Cowan remarked that for the last fourteen years the words "bee pest" had been associated with foul brood in his Guide-book, and yet there seemed no disposition to adopt that name.

Mr. Cribb, in speaking of the remedies for foul brood, said that they often heard of such measures as killing the bees, cleansing the hives, supplying new foundation, burning the combs, &c., but seldom or never heard of cleansing the ground where the hive stood; and he had known of cases where the hive, after purification, had been again put down among the decaying carcases of bees which had died of the disease. He had had foul brood in his own apiary, and, besides using all the other remedies, had removed 3 in. of earth from underneath the infected hives, and substituted clean ashes. By these means his bees remained free of the disease for the following year and the year after. Probably if he had not cleansed the ground, the result would have been different.

Mr. Baldwin thought that not only hives, but all the surroundings thereof, should be cleansed after the destruction of foul brood. It would be a good thing if the B.B.K.A. were to lay down some rules to guide bee-keepers in keeping free of foul brood. He was much in favour of the issue of rules to assist prevention. Their cause depended to a great extent on beginners, who quickly became disgusted when their hives were attacked.

Mr. Harris said Mr. Baldwin's suggestion as to issue of rules had been mentioned in committee, and would no doubt be adopted.

Mr. Till remarked that the cleansing of the ground and disinfection of stands was advocated in Mr. Cowan's book. They ought to have facilities in every district for disinfecting hives.

Mr. Webster believed steam or boiling water to be the best disinfectant. He thought there was a simple plan by which associations might disinfect hives, and that was by obtaining a boiler like those used by farmers to steam potatoes, from which a tube could be brought and turned into some receptacle capable of holding a hive. He believed it was impossible to disinfect properly with carbolic acid.

Mr. Cribb advocated boiling the hive in an ordinary copper; when the solutions that were considered desirable might be placed in the water. That was a cheap and efficacious method.

The Rev. Mr. Bancks inquired whether burning paraffin or kerosine would not be equally as effective as steam.

Mr. Cribb replied that it would where the flame touched, but it never succeeded in scorching in the nicks and crevices, and if one spore was left in, the good done was minimised.

Mr. Andrews wanted to know why steam was preferred to sulphur. He suggested putting the hives in a large box made for the purpose, and disinfecting them with sulphur cakes—a cheaper and more practicable method to most people than steam.

Mr. Garratt agreed with regard to the value of sulphur as a disinfectant. Sulphur candles were used very much in cases of illness in the household, and if effective there, as was generally admitted, why not in the bee-hive?

Miss Eyton emphasised the value of the sulphur candle for disinfecting rooms.

Mr. Cribb said the disinfection of rooms was a somewhat different matter. Pieces of

wax, combs, and propolis stuck on the sides of a hive, and might cover up spores, which would not be reached by the fumes ; besides, sulphur would not penetrate the double walls of the hive. Sulphur with a jet of steam would be more effective, but anything covered up required a steam heat of 212 deg.

Mr. Cowan said the product of burnt sulphur — sulphurous acid gas — had been found to be of no use whatever in destroying spores. Bacilli could be killed by it, but spores could not. Carbolic acid, formic acid, and other antiseptics had little effect on spores. But it had been found that spores could be destroyed after subjecting them to dry or moist steam, the latter preferred, for a few minutes only. Perhaps it would be best to steam them several times at intervals, because they might resist the first attempt, but would be sure to succumb after twice or thrice. All the drugs used were only effective on bacilli. Many bee-keepers professed to have cured foul brood, and probably they had done so while the disease was in the bacillus stage ; but when the spore condition was reached a cure was next to impossible. The chances were that the spores got into out-of-the-way places, where nothing that was used could get at them ; even steaming in consequence of that would fail sometimes. He recommended as a prevention that bees should always be fed with medicated food, and the hives disinfected. Immediately the bacilli developed they could be easily destroyed by carbolic acid or other well-known antiseptics. When the disease advanced to the spore stage then the best remedy was burning and destruction of combs and frames and disinfection of hives, giving bees a fresh start. There was a good deal of misconception with respect to foul brood. The terms bacilli, spores, and germs were used indiscriminately, showing that the important difference existing between them was not understood. When a larva was attacked by disease the bacilli found in it a suitable medium for propagation, and as soon as all the nutrient material was exhausted the bacilli changed to spores. Whilst in the bacillus stage antiseptics were of use because the bacillus could be destroyed, but when the spore condition was reached it was quite a different matter, for the spore could not be killed unless the antiseptics were of such strength as would kill the bees. Moreover, the spores would have to be subjected to them for a considerable time to be affected by the drugs. Should one of these spores get into the alimentary canal of a larva it at once sprouts and becomes a live bacillus, which in turn multiplies until all the nutrient material is exhausted. He hoped to publish soon a list of different drugs that were used as curatives, with the effect each one had on bacilli and spores respectively, so that bee-keepers might know the value of each drug as an antiseptic. The increase in bee-keeping and the traffic in bees was no doubt answerable in a great measure for the spread of foul brood, and the former destruction of the bees every autumn helped also to destroy the disease. As far back as 1779 there was an epidemic of foul brood in the Island of Syra, and nearly all the bees died in consequence. When visiting Savoy a few years ago he saw empty bee-hives at almost every farmhouse, and on investigating the reason was told that the bees had died by a "visitation of God," which upon inquiry of intelligent bee-keepers in the country he found to be synonymous with foul brood, the epidemic having destroyed all the bees there. That was six or seven years ago. Since the bees had died out bee-keeping had made a fresh start in the Department on modern principles, and was now flourishing. Foul brood existed long before the invention of the bar-frame hive, but less was heard about the disease because it was not understood, and the havoc that followed it was attributed to natural causes, and such absurdities as the neglect of the household to inform the bees of deaths in the family, &c. There was no doubt the disease was spreading rapidly, and the Association was bound to take notice of the fact, or, as they were told, bee-keeping would gradually become extinct in the country. In reference to Mr. Webster's remarks, he would say that the heat that would be sufficient to cook potatoes would be of no avail for destroying spores, as it would be less than 212°.

(*Conclusion of report in our next.*)

SCOTTISH BEE-KEEPERS' ASSOCIATION.

A special meeting of the members of the Scottish Bee-keepers' Association was held in the Imperial Hotel, Edinburgh, on 16th ult. Mr. Weir Heriot presided over a fair attendance. The assistant-secretary, Mr. J. Wishart, submitted the financial statement for 1894, and also laid before the meeting an account of his intromissions during the current year. Mr. Wishart then intimated the resignation of Sir T. D. Gibson-Carmichael from the honorary secretaryship of the association on the ground of his not being in a position to devote the time a secretary should to the interests of the society. On the motion of Rev. Mr. Blake, seconded by Mr. Chouler, it was resolved to ask Sir Thomas to reconsider his decision. Mr. Wishart's resignation was next considered, and that gentleman positively declined to again take office. A small committee was appointed to consult together and thereafter appoint a new assistant-secretary. They decided to wait upon Mr. C. N. Craik, Dalkeith, with the view to his appointment.

Previous to the meeting of members, the committee met to consider the case of two of the disqualified "Displays of Honey" at the last show in Edinburgh, viz., those of Messrs. Ross & Kerr, Dumfries, and Messrs. Learmont & Gilchrist, Castle Douglas, the said exhibits being disqualified on the ground of their not

conforming to the rules as laid down in the show schedule as to the space to be occupied by the "Displays" in Class I. A protest lodged by Messrs. Ross & Kerr against the exhibit of Mr. T. K. Newbigging, Dumfries, in the same class, as not conforming to the same rule, was also considered by the committee. After discussion, the committee were unanimous in agreeing to uphold the decision of the judges. On the motion of Rev. Mr. Blake it was resolved to convey to Sir Thomas Gibson-Carmichael the hearty thanks of the association for his very liberal support of it since it was instituted by him in 1891. The usual votes of thanks brought the meeting to a close.

LANCASHIRE AND CHESHIRE B.K.A.

ANNUAL MEETING.

The annual meeting of the above association was held at 20, Sir Thomas-street, Liverpool, on Monday, February 25, at three p.m. Among those present were Messrs. J. Bell (in the chair), H. Firth, W. H. Chapman, T. Shuttleworth, C. Wade, Geo. Roberts, Geo. Rose, J. Fame, T. G. Hill, H. E. Mothersole, Dr. B. E. Jones (hon. sec.), and T. D. Schofield (hon. treasurer). The report and balance-sheet were duly adopted, it being very satisfactory to note that the association is at present in a much better financial position than it has been for some time; the number of members is also steadily on the increase. After the usual votes of thanks had been passed, and the re-election of officers decided upon, the following resolutions were unanimously carried:—1. "That the L. & C.B.K.A. do most heartily agree and sympathise with the B.B.K.A. in the matter of the steps they are taking to procure legislation for the compulsory destruction or treatment of foul brood among bees, and trust that they will be successful in their efforts." 2. "That this association wishes to express its deep sense of the great loss the bee-keeping world has sustained during the last twelve months in the death of two gentlemen whose names are well known in its ranks, viz., Frank R. Cheshire and Charles N. Abbott."

After the annual meeting the committee held their first meeting, Wm. Tyrer, Esq., J.P., being elected chairman of committee for the year, and Mr. W. Jones Anstey expert to the association.

STAFFORDSHIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting of this association was held in the Guildhall, Stafford, on February 12, Alderman W. G. Bagnall presiding over a good attendance. In opening the proceedings, the Chairman said the last show held in connection with the Staffordshire Agricultural Society, at Stone, was a magnificent success, and showed that great strides had been made in bee-culture in the county. It proved, moreover, that apiculture was not only interesting but might be made a source of profit. The report of the expert stated that the season of 1894 was one of the best for honey that had been experienced lately. The exhibition at Stone was the largest ever held, the entries being 166 at Stone as against 137 at Lichfield in 1893. During the year he had visited 1,232 hives of various kinds in the county, and had given lectures on bee-keeping where there was a demand for them. The hon. secretary (Mr. Harold Twentyman) then read the annual report, which dealt largely with the necessity there was for legislation to enable them to stamp out the foul brood, as had been done in Germany, Canada, and the States. So far as Staffordshire was concerned, the committee was resolved to do their utmost to stamp out the disease by every means in their power, and they had instructed the expert that wherever he discovered foul brood to exist he should, if possible, purchase the hive and its contents, and destroy it. The report of the treasurer showed receipts £50. 12s., and expenditure £31. 4s. 1d., leaving a balance in hand of £19. 7s. 11d. With regard to the Stone show, there was a deficit of £15. The reports were passed; after which Mr. R. Cock gave an address on "Foul Brood." Subsequently on the motion of the lecturer, the association resolved to heartily support the action of the British Bee-keepers' Association in the effort to stamp out foul brood, and entirely approved the proposed legislation. A vote of thanks was passed to the president and officers for their services, and they were all re-elected.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

HINTS FOR DISCUSSION.

[2252.] Not without much reluctance do I feel constrained by Mr. Woodley's communication, on p. 85 of last week's B.J., to inflict yet a few more words on you and your readers, who are, no doubt, heartily tired of this phase of the discussion on the foul-brood question. This, however, shall be my final "say" on this particular subject. In his last effusion (p. 85) Mr. W. show himself to be an adept at

obscuring, in a mass of verbiage, his inability to grasp a few plain facts, and answer a few simple questions. He wanders aimlessly like a modern "Don Quixote"—to quote himself—"out of the beaten track" into the "borderland of science," with only a third-rate pamphlet as a companion in lieu of a "Sancho Panza." I should be well content to leave them in each other's company, but, true to the character of the "Don," he takes the first opportunity of throwing down his gage, and challenges me (as if I were the historical windmill) or any one else, to point out a single line he has written or expressed against "an act dealing with foul brood." How does the following read?—"But if our craft is advanced enough to require the strong arm of the law to regulate *the matter is another question. The law deals hardest with the poorest in this as in other matters,*" &c., *vide* B.J., vol. xxii., p. 492 (the italics are mine); and again (2228, p. 67) "But if the inspector" (under the proposed new act, remember) "goes into a poor man's apiary, and has power to destroy his little stock of two or three hives of bees, and has no compensation to offer him, I say it will be a cruel shame to that poor man." To my mind it requires something more than obtuseness to construe these sentiments into expressions favourable to the obtaining of "compulsory powers." The whole of his last letter is entirely beside the question, and in no way alters what I emphasised in my letter (2232), viz., that there is not "one new fact demonstrated and proved" in the whole of Dr. Howard's book—and I might add—nor in the heterogeneous mixture compounded therefrom by Mr. W. Nothing but the most every-day demonstrations, such as are constantly carried out by ordinary individuals interested in microscopic researches in bacteriology, and reiterations of the experiments of others are set forth therein.

It is, however, useless going over the ground again so long as the queries in my last are unanswered, and to endeavour to convince any one having so large a capacity for amissibility in more ways than one as Mr. Woodley is a hopeless task. I put the question in my last, "has Mr. W. personally carried out one single experiment" to test or prove the theories he expounds? From his silence, I judge he has not. To take a piece of diseased comb, transfer a minute portion of the rotten larvæ to a glass slide, stain it by any of the known methods, and examine it under a microscope is not an arduous task, and can in no way entitle the person who succeeds in it to be classed above the ordinary experimentalist. This, however, is all Dr. H. claims to have done, and we have no assurance that Mr. W. has even gone so far as this. On page 86, at bottom of first column, he tells us that "to make sure, Dr. H. carefully examined the cells which were capped by the bees, and in nearly every instance was found these same hard masses of old foul brood. These were carefully dissected and examined, and found to contain spores and bacilli, from which cultures were made." Surely it required no great stretch of imagination to foresee this result! What else would he expect to find in foul brood but *foul brood?* As to the "cultures," this is no difficult task; any way, test and culture tubes are cheap enough. Why, common watch-glasses costing a few halfpence per dozen answer admirably. A small heated chamber or box, with glass top or otherwise, a reliable thermometer, a short length of platinum wire, and there we are fairly on the way to make a few experiments on our own account. And I may be permitted to think that a little experimenting on simple lines like these would entirely alter the views Mr. W. at present holds, and save him from making so extravagantly feeble a remark as appears on page 66, as to my "evidently believing that germs or spores of bacilli are floating thistle-down fashion, waiting for the next wave of air to convey them to fresh hives and pastures new."

He here holds up to ridicule another well-ascertained fact, which—in the present chaotic state of his researches into the scientific—he is not in a position to speak upon. Not quite "thistle-down like," my friend, so many dozen to the square yard, but floating from the entrance of a badly diseased hive in so many thousands to the square inch! saturating the very breath of life in and near such a plague-spot, and only requiring a suitable medium of propagation to spring into renewed life and vigour. Might I suggest that Mr. W. should do as others have done—try a few experiments in his own little way? It is marvellous how differently those who have endeavoured to acquire knowledge by personal experiment view the works of others, and how it enables one to distinguish between the wholesome grain and the weeds. As to culture media—if your correspondent decides to adopt my suggestions, don't let him trouble about agar-agar (*Gracilaria lichenoides*), otherwise sea-weed, or Ceylon moss, *bacillus alvei*, nor in fact any other zymosis—are not over-particular; try gelatine, gravy, or potatoes, or, if these are not handy, a soft place on an old boot, with a little preparation, is not to be despised on a pinch. Then try the effect of a few well-known agents and reagents upon the cultures, such as napthol, napthol beta, corrosive sublimate, chloride of lime at 98 deg., sulphurous acid, carbolic acid in its many various forms, boric acid, bromine, iodine, permanganate of potash, &c., in different dilutions, and he will then be well landed over the border of the enchanted land whereof he speaks, and know something more about the subject he discusses than even appears in the work I have yclept his "Sancho Panza."

To sum up, two facts have been elicited by this discussion, which were not at first quite clear. The first is the admission by Mr. Woodley that the late Mr. Cheshire's book is

the great work, or, to quote our friend's Latin, "the *magnus* [*sic*] *opus* on bees and bee-keeping," and the second is Mr. W.'s declaration that he is in favour of "compulsory powers" for dealing with foul brood; he has a rather curious way of saying so, but perhaps he was waiting to see how the wind was going to blow, and it is highly satisfactory to record, as a final result, that his is not a case of "another good man gone wrong."—HENRY W BRICE, *Thornton Heath, Surrey, February* 28, 1895.

EFFECTS OF THE FROST ON BEES.

A BEE ASSOCIATION FOR HERTS WANTED.

[2253.] The severe frost has at last disappeared, but traces of the general havoc everywhere present themselves. It is distressing to see the burnt-up appearance that the laurels have, and even hardy coniferæ have not escaped. Many of over twenty years' standing, that a few weeks ago were green and flourishing, have now bowed their majestic heads to the all-powerful and destructive enemy. So severe has been the frost with us, that a sheep was roasted on the River Lea, not many hundred yards from my apiary. The last occasion that such an opportunity presented itself was about forty years ago.

Bee-keepers will be anxious to know the effect that this severe and prolonged frost has produced on their stocks. Saturday being a bright day, I had a peep into all my twenty-seven stocks, but, alas! eleven had succumbed. The stocks were fairly strong, and well supplied with stores, and all the hives are perfectly water-tight. Moisture, however, must have caused the mischief, as their bodies were literally frozen together. I can only attribute this to the floods and fogs of last autumn. Strange as this may seem, and wholly unaccountable for, is the fact that a small nucleus stock of about 2 lb. weight has survived.

I am quite of the opinion that Hertfordshire should have its association, and that Hertford and St. Albans would make good centres, and should be glad to give any assistance that was within my power in promoting its interests.

My "Wells" hive has wintered better, and is stronger than any other in my apiary. It has a non-swarming chamber below the brood-nest.—JOHN J. KER, *Willoughthorpe, near Ware, February* 25.

"THE BEE JOURNAL," THE B.B.K.A., AND FOUL BROOD.

[2254.] May I be allowed to express my thanks to the Rev. S. Routh for his very timely remarks on the foul-brood question (2240, p. 84). A head gardener who has an apiary of twenty hives has written to me within the last week pointing out that, according to the BEE JOURNAL, cure is hopeless, and that fire is the only remedy! He writes asking me what he is to do? The B.B.K.A. would, as it seems to me, render a public service if they would issue a simple leaflet with plain and decided directions. We don't want any elaborate dissertations, nor a repetition of the dozen or fifteen remedies (?) sometimes suggested, but something which simple folk can understand and act upon easily. When the public have been officially informed what is the latest, best, and cheapest cure, as well as the best method of prevention, then all will know exactly what to do. I am speaking now for others rather than for myself. We have had foul brood badly here, but got rid of it without much difficulty, as I have already explained in the B.J. for July 28, 1892 (p. 284). And I submit that until some such directions have been issued, and their efficacy fully tested, the question of compulsion and the appointment of a swarm of paid Government inspectors is premature.—E. BARTRUM, D.D., *Wakes Colne Rectory, Essex.*

[Our correspondent will probably find the information he desires in the discussion which took place at the meeting of the B.B.K.A., a partial report of which appears in this issue (the concluding portion in our next). But so far as the ability of the B.B.K.A.—or anyone else — to formulate a leaflet the perusal of which would enable "simple folk" to cure foul brood "easily," it seems to us somewhat analogous to asking for printed directions which will enable people to dispense with the assistance of a medical man in case of typhoid or similar disease.—EDS.]

CANDY-MAKING

AND GLAZED SECTION-CASES.

[2255.] I have lately been trying my hand at candy-making, after the recipe and directions in Cowan's *Guide Book*, but instead of the three-quarters of a pint of water, as recommended, I substituted a pint of liquefied honey. The result was very fair, although the candy was not so soft as I could have wished, yet the bees eat it with avidity. Having by me a few discarded glazed cardboard section-cases I used them as moulds. By using these I can tell at a glance when the supply of food needs replenishing. — PERCY LEE, *Beemount, Stoke Prior, Worcester.*

DISINFECTING HIVES.

BROMINE AS A DISINFECTANT.

[2256.] In reply to "T. F. L." (2243, p. 87), I beg to state that I have for the last two years been in the habit of using bromine for the purpose of disinfecting hives, and have had every reason to be satisfied with the results.

It has been my practice, in the first place, to paint the hive with paraffin, and fire it; and then, in order to reach every nook and crevice,

and to penetrate between double walls, &c., I have employed the vapour of bromine. To complete the work I give a good coat of paint.

It seems to me that nothing could be simpler than this method. The whole thing is done with a minimum of trouble and cost, and, as far as my experience goes, is thoroughly effectual.

I consider that the process of disinfection could be effectually completed with the bromine alone, but for more than one reason I prefer to commence with the firing, and it is really very little extra trouble.—GERARD W. BANCKS, *Dartford, March* 2.

A WINTER CHAT

ABOUT THE BEES.

[2257.] February is the month when old Britain is supposed actually to take the waters more than at any other time. And in this way my hives will, I suppose, have become watertight in the same way as a tub, *i.e.*, by the swelling of the wood. Certain it is that they have been wet enough all through January. Towards the end of the month there are generally a few spring-like days when bees also begin to take the waters, and search the gardens far and wide for early flowers; their buzz after the weary silence of winter stirs the heart more than when the year is warmer. We do not know how much it is to us till we are deprived of it.

There are snowdrops coming out, and in cottage windows the hyacinth begins to answer to the more loving touch of the sun. It is not so very long since the hyacinth was taken in hand by the Hollanders, yet it has already become old, a flower as necessary to an English window as a daisy to an English garden (perhaps I ought to have said nasturtium ?).

The human family require change, whether of religion, raiment — I wonder whether knickerbockers come under that designation ? —food, or flowers. From the spinning-wheel and tapestry ladies degenerate to wax-flower making, leather fruit and flower making. Then comes a wave of civilisation, and now they are, oh so busy, as artists and carvers in wood. The good old days when bread was 1s. a loaf—and more like putty than the staff of life at that—and a tulip bulb fetched anything up to £50 have gone; then came the middling days, when bread was cheaper and more money to buy it; when farmers prospered (because they worked hard) and double dahlias captivated us one and all. Now the days are admittedly good, but not so good as the good old days. The farmers, indeed, ride about on their cobs, and say it is bad, can't live, and yet they do live somehow. Now we do not bind ourselves to grow one kind of flower only, as though we were under some inexorable law. We grow the brilliant tulip, the erstwhile despised daffodil, begonias, dahlias, saxifrages, anything so long as it has some merit of beauty. Yet flowers will come and go for ever. Future gardeners will wonder what on earth a begonia was, or what we could see in gaillardias. We must have change of fashion. Cottagers will forget their akyverinses (echeveria) and Herniaria glabra, in the delights of new and strange gods. Let us hope that some of our old friends will remain with us for ever—carnations, pansies, mignonette, pinks, double daisies, best of all, the rose.

Every bee-keeper worthy of the name is longing for the spring. Winter is more bitter, dull, dead, to those who are accustomed to be out, if not in body in spirit, with the bees. We see the contrast better than do those folk, whom we may term altogether unnatural, house folk, whose eyes are ever turned town and theatre wards. What are lengthening alder catkins, bursting chestnut buds, redolent of propolis, to them ? The colour of pollen, the play of the young bees before the hive, the first drone in May ? Winter days, to the bee-keeper, go so slowly. With February in, however, the days—as a time of light—are perceptibly longer. Gardeners are busy sowing seed and making preparations, and it is a good plan to read one of their papers now. They are so hopeful, these men of cucumbers and candy tuft; they say, "Do this and that" with as much confidence as if April showers, the sun, &c., were worked like the idols of old, with string, and they had the pulling of it. The old world has never disappointed us, and I find my daffodils have the same faith as mankind—by parting their leaves you can find some buds. The queen bees, too, begin to lay without any "crock eggs" to remind them of their duty.

I saw a paper the other day from Australia—that land where all things are topsy-turvy—the south wind being a cold wind and the north wind a hot wind. Where the gooseberry-bushes creep about and run beneath the soil; where the spring is in the autumn, the hottest time at Christmas, and autumn in the spring! A miserable place where the sun rises in the west and sets . . . but here I stay, for the line must be drawn somewhere; nevertheless there must be a good opening for poets there, because our poetry would naturally be all wrong. What is the good of staying here, ye poets, on the off-chance of becoming poet-laureate ?

The good, well-printed paper is called *Rural Australia*. It was a September edition, and in the article for bee-keepers, reminding them that swarming time (the only thing that isn't topsy-turvy it seems) is not far off, and supers must be got ready. I gathered that bee-keeping is much on a par to what it is here. This astonished me, for I had an idea that the shining hours there were unlimited, and the bees, being ever ready to improve them, did it so well that extracting honey was like milking cows—a twice-a-day performance.

Bee-keepers here are well off, if only they

knew it! Nowhere else can better appliances be had, or more easily. Nowhere else is the demand so certain and the price so high. Nowhere else in the world are there better flowers for honey, or better honey than English honey! Not Hymettus? No, not even Hymettus! I have tasted Hymettus honey, Californian honeydew, orange-blossom honey, Sandwich Island toffee, chemists' pure honey, &c., and I say, "Give me some Cheshire clover honeycomb, out of an old-fashioned bell-glass!"

Below I give an extract from the paper before referred to, almost the only alteration in which at my hands is the substitution of the word "flowers" for "feed." What on earth does a man want to use the word *feed* for in a sentence like this:—"Bees cannot do well in localities where feed is scarce"? Sounds as though bees wallowed in a trough like mere swine—no poetry in these colonists! "Bee fever symptoms usually break out in visible form about this time (October 1), but there are few, if any, indications this year. I was in Sydney recently, getting necessary supplies for the season, now opening for us rather favourably in these mountain districts, and was told that business in bee-goods is very quiet; that very few new people appear disposed to take up with bees; and that the usual spring-time "bee-fever" is nowhere visible as yet. But I don't think there is much cause for regret. The spurts of former seasons did more harm than good, for many persons went into bee-keeping without weighing the conditions that lead to success. For instance, bees cannot do well in localities where honey-producing flowers are scarce, and the suggestions made during several seasons at this time in the "Rural" to commence with just a few stocks—say, two or three—is far more likely to lead to success than to have double the number, or more, and to find that they starve, or, at least, can collect honey enough only to keep them alive. There is a great future for the honey industry here, but it is not helped by the fever-like excitement which leads people to believe that bees can be worked profitably without first testing the honey-producing qualities of a locality."—LORDSWOOD.

THE TRADES MARKS ACT.

DOES BEE-KEEPING PAY?

[2258.] In reply to a question put in the House of Commons on the 12th inst., asking the President of the Board of Agriculture what arrangement, if any, he had come to with the Board of Trade for the regulation of the trade in imported meat, and for the protection of customers against the fraudulent sale of such meat under British description?

Mr. H. Gardner said it seemed to him doubtful whether the provisions of the Merchandise Marks Act of last Session were fully known, and he, therefore, proposed to issue an explanatory circular on the subject which would be distributed among the Chambers of Agriculture, farmers' clubs, and farmers' societies. He had no wish to see the Act become a dead-letter, and he would do his best to secure that all offences under the Act were dealt with as they deserved.

Mr. Hozier asked whether the proceedings contemplated by the right hon. gentleman included fruit as well as meat.

Mr. Gardner said they would include all agricultural produce.

I think the reply given above, and the words "all agricultural produce," should be recorded in the B.B. JOURNAL for the use it may be to bee-keepers and honey-producers in the country in the future. Bee-keeping has been called "the poetry of agriculture," and the production of honey certainly belongs to, and forms part of, the greater industry of agriculture.

A few years ago I was favoured with a catalogue from a dealer in the North of England, containing a statement that an authority on bee-keeping had said:—"Every square mile of this country was capable of producing one ton of honey." This surprised me, and led me to think whether it were possible. Since then other bee-keepers have stated that every parish would produce that quantity. Although I have been a reader of the BEE JOURNAL for many years, I do not remember seeing a statement that would verify the above.

Perhaps there are bee-keepers who read the BEE JOURNAL who could put this statement beyond doubt by giving their take of honey in weight from a single apiary in one year.—J. BROWN, *Polyphant, near Launceston, February* 19.

[A yield of a ton of honey to every parish in a good honey county is a very moderate estimate indeed, and far below what is possible in good seasons. As to individual returns, refer to p. 84 of last issue.

EXPERTS' CERTIFICATES.

[2259.] I think there is a good deal of truth in what your correspondent (2234, p. 77) says about experts' certificates. Though not a certificated expert myself, I have handled bees for upwards of ten years, and sometimes under the most difficult circumstances. I have an apiary of my own, consisting of about thirty stocks, and in managing these of course one has often to find the queen. Sometimes I can pick her out at once, at others I may have to examine comb after comb twice over before I find her. No doubt some reason exists for limiting the time in which the queen must be found, but why such a few minutes? I have seen experienced experts drive bees and fail altogether to find the queen at first trial, and why should more be expected from candidates? I should also like to ask, are candidates supposed to manipulate without a bee-veil? and if so, why? In all important work I use a veil, and if I am to dispense with one in order

to get a certificate I shall never try for it. I can stand fifty stings on my hands and arms, but with a tenth of that number on my face I could not see very well for some time after. In conclusion, I suggest that when your correspondents are criticising each other's letters they should use softer words. It costs nothing to be considerate for each other. — OWEN BROWNING, *King's Somborne, near Stockbridge.*

REDUCTION IN PRICE OF SUGAR.

The spring feeding-time being now near at hand, we are glad to note a considerable reduction in the price of pure cane sugars, from March 1 till further notice, good sugar, suitable for spring feeding (No. 4 Demerara), being now obtainable at 17s. 6d. per cwt., as will be seen on reference to price-list on usual page.

Queries and Replies.

[1236.]—*The "W. B. C." Hive.*—I am making some new hives to take the place of the old, and have selected the "W. B. C." as my model. Will you, therefore, kindly reply to the following:—1. Are the frames parallel, or at right angles to the entrance? 2. When the body-box is put into position, does it fit close to the outer case in front, or is there a space left? If there be a space, does there not then require a bridge to keep the bees from running up into the wrong place? 3. When manipulating with the bees, do they not get down between outer case and body-box? or is it necessary to put a piece of wood all round the body-box to prevent them, or does it not matter? 4. Are newspapers good things to use as winter packing?—F. SMITH, *Nantwich.*

REPLY.—1. Personally we work frames at right angles to entrance, but several manufacturers make the "W. B. C." hive so that the body-boxes may be set with frames hanging either way at will. 2. Close up to front, so that bees cannot pass into the space between hive and outer case. Some makers nail a thin slip of wood on body-box to form a fixed cover over the passage-way, but we prefer a loose piece capable of removal at certain times. 3. A cone of perforated zinc is permanently fixed over the ventilating holes in roof, by means of which any stray bees may pass out. 4. Yes; we always use them for the purpose.

[1237.] *Re-queening Vicious Bees.*—I have two stocks of English black bees. One stock is very quiet, and gave me a good surplus last year, the other stock is very fierce and did not get any surplus. I want to re-queen No. 2 stock with a queen reared from No. 1 stock. Shall I put an empty frame of worker comb in brood nest (as told us on page 122 of Guide-book), and when this is filled with eggs catch the queen and introduce her into stock No. 2? Or would you advise me to buy a stock of carniolan bees to breed some drones to mate with the queens? I want to get some very quiet bees, as when I am stung I am laid up for a week with an arm in a sling, which is inconvenient.—SAML. J. LLOYD, *Corby, near Kettering.*

REPLY.—Under the circumstances we should not advise your doing anything by way of either queen-rearing or breeding special drones from a carniolan queen to obtain a quieter strain of bees. When the proper season arrives for buying queens, remove the vicious one and introduce one of quiet strain bought from some reliable queen-breeder, who devotes himself to raising such bees.

TEMPERATURE IN 1894.

Stoke Prior, Worcestershire. Above sea level—225 feet.

	Maximum.	Date.	Minimum.	Date.	Frosty nights.
Jan.	53°	11	9°	5	17
Feb.... ...	53°	4	20°	19	14
March ...	64°	26	23°	16	11
April	68°	11	29°	19	3
May	64°	25	27°	27	5
June	79°	30	35°	18	None.
July	81°	1	40°	3	„
Aug.	72°	30	36°	20	„
Sept.	67°	1	30°	27	2
Oct.	60°	7	24°	21	1
Nov.	60°	2	23°	30	6
Dec.	50°	13	22°	4	11
					70

PERCY LEIGH.

REVIEW OF CONTINENTAL BEE JOURNALS.

BY J. DENNLER.

Revue Internationale d'Apiculture.—Editor, E. Bertrand.—No. 12 gives the portrait and biography of an eminent scientist and devoted friend of apiculture, the Dr. A. de Planta. Instigated by the celebrated chemist Liebig and by his friend Professor Erlenmeyer, Dr. de Planta has devoted ten consecutive winters to investigation of bees and their products, and has not yet ceased to explore this rich and interesting field of science.

These are some of his works which have been published in the Swiss journals:—

"Chemical Study of the Bees," 1883 and 1886.

"Pollen and Bee Bread, and the Ferments which they Contain," 1879.

"On the Presence and Function of Formic Acid in Honey," 1884 and 1894.

"The Cappings of Brood Cells," 1884.

"To what is the Colour of Wax due?" 1885.

"Study of the Chemical Composition of the Pollen of the Hazel and Pine," 1885.

"Analysis of the Barricades constructed by Bees," 1886.

"Chemical Composition of some Nectars," 1886.

"Composition of Larval Food," 1887 and 1890.

Dr. de Planta will be 75 years old on May 20 next. May he long live and enjoy good health for the benefit of his friends and advancement of science.

The Life of Bees during Winter.—Under this title the same paper has published during 1994 an excellent monograph by a Russian bee-keeper, M. Tseselsky, which contains a large number of interesting and valuable observations.

L'Apiculteur.—Editor, Sevalle. Exposition in 1900.—The *Journal Officiel* has published the decree respecting the exhibition to be held in 1900. It is to be opened on April 15 and to close on November 5. There is to be in the different classes a retrospective exhibition showing the progress made during the century commencing from the year 1800, in the different branches of production, to which will be added a contemporary exhibition. The site selected for holding the exhibition will include the Champ de Mars, the Trocadero, and the surrounding grounds, the Quay d'Orsay, the Esplanade of The Invalides. The Quay of the Conférence, the Cours-la-Reine, the Palais de l'Industrie and the ground adjoining this building, and between it and the Avenue d'Antin.

Bordeaux. — The Philomathic Society of Bordeaux is organising for the spring of 1895, and for a period of six months, its thirteenth exhibition. The products of bee-keeping, as well as the implements in use in this branch of industry, will be admitted to the exhibition.

Schweizerische Bienenzeitung. 18th year. Editor, Göldi-Braun.—*Propolis as a corn plaster.* M. Leemann, in the Swiss bee journal, gives the following recipe :—Propolis from beehives has proved to be an excellent remedy for corns on the feet. A colleague who could hardly walk, the pain being so great, made some small plasters with propolis slightly warmed, and was able, eight days afterwards, to make a long and tolerably tiring mountain excursion continuing for two days, without feeling the slightest pain.

No. 1 gives the biography as well as the portrait of the celebrated bee-keeper, Peter Theiler, of Rosenberg, Zug, who at present cultivates 260 colonies of bees, and who is well known and respected, not only in Switzerland, but also in the whole bee-keeping world.

Apiculture at the end of the Century begins to be more and more scientific, and we as bee-keepers are not insignificant in this century of light; but alas! what a number of complications impeding our progress and useless to the bees. During the time of the late M. Hamet the bee-keeper was a man who kept bees for the sake of honey and wax; to-day the bee-keeper is no longer a bee-keeper; he is an encyclopædia. In fact, if he wishes to be at the head of his profession, he must be a naturalist, botanist, chemist, carpenter, zinc-worker, plumber, and even a tinsmith. St. Valentine! patron of bee-keepers, tinsmiths in general, and of perforated metal in particular, save us!

(*To be continued.*)

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. M. Thompson (Brocklesby).—So long as the sugar received is guaranteed pure cane, it will do very well for bee-candy.

W. S. P. (Cowbridge).—*Suspected Comb.*—1. There is no foul brood in comb sent, only pollen. 2. We find no trace of comb-foundation in septum, or midrib, of the drone-comb, and imagine that by some means the worker-foundation has been got rid of, and not transformed into drone-cells, as you suppose. Full sheets of worker-foundation practically ensures worker-cells being built in the frames.

H. Dudley Arnott (Gorleston).—*Bees Dying from Famine.*—There is no trace of disease in comb received. It is, however, pitiable to see capped healtby brood of this year's production dead in the cells. Evidently the stock was doing well to be breeding nicely in such excessive cold as we have had, but the bees have simply perished from only having candy (perhaps hard and useless for food at such a time) in the hive. The combs containing dead brood must be burnt, but the others may be used again. Bees are the ordinary kind with a trace of carniolan in them.

"Tedd" (Swansea).—Comb is badly affected with foul brood.

Anxious Novice (Kirriemuir).—*Bees Deserting Hive.*—1. The probability is the bees deserted the hive through queenlessness. 2. If there be no trace of disease in the combs—*i.e.*, capped brood cells—and they are in good condition, you might use them for a swarm, otherwise we should melt them down.

George Motton (Diss, Norfolk).—1. $\frac{3}{8}$ in. space is sufficient between bottom bars of surplus chambers and top bars of body-box. 2. No, we never use dummy boards in shallow-frame boxes. 3. There was an association in Norfolk, of which Mr. J. J. Rice, Wensom-street, Norwich, was [the secretary, but we are not sure if it still exists.

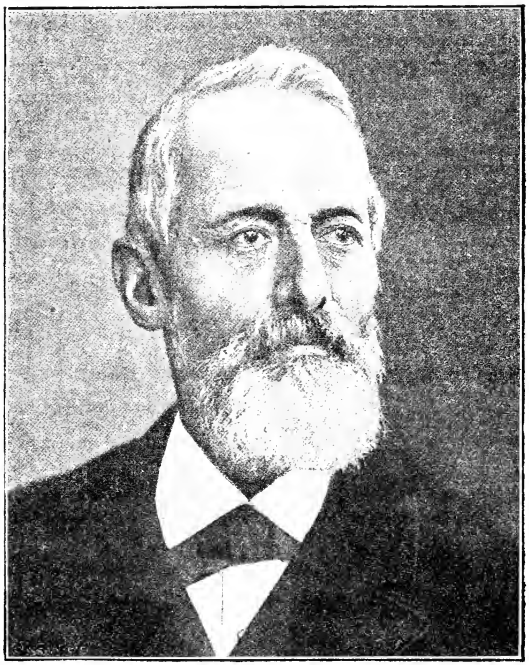
Editorial, Notices, &c.

DR. ADOLPHUS DE PLANTA.

It was only last week that a short account was given in "Reviews of Continental Bee-Journals" of some of the works of this eminent scientist, and now it is our painful duty to have to record his death, after a very short illness.

Dr. de Planta was born on May 13, 1820, at Tamins, in the Canton Grisons, Switzerland. His property and residence, the Château de Reichenau, is beautifully situated at an altitude of 2,021 ft., at the confluence of the Vorder-Rhein and the Hinter-Rhein. The river here is 140 ft. wide, and at this point first receives the general name of Rhine. The château was erected by the Bishops of Coire, and named by them after the Abbey of Reichenau on the Lake of Constance. The property was already in the possession of the de Planta family in 1568, but was for a brief period occupied by others. At the end of the last century a philanthropist named Tschainer established a boys' school at Reichenau, and it was in 1793 that the King of the French, Louis Philippe, at that time the Duc de Chartres, sought refuge here under the name of Châbot, and for nine months acted as one of the masters, and memorials of his visit still exist.

Young de Planta was educated in the college at Schnepfenthal, and it was here that he acquired a taste for natural sciences. He then attended the classes at the Industrial School at Zurich, and upon deciding to devote himself specially to chemistry, he went to study in the Universities of Berlin, Heidelberg, and Giessen. In 1845 he completed his studies, and after passing a brilliant examination he obtained the degree of Doctor of Philosophy. Being fond of nature and study, he travelled through France to England, after which he visited Norway, Spain, Portugal, as well as Egypt and Palestine.



DR. ADOLPHUS DE PLANTA.

For fifteen years Dr. de Planta worked assiduously in his own laboratory at Reichenau, and occupied himself principally with researches on the mineral springs of the Canton of Grisons. During his stay in Germany, whither he had repaired for the education of his children, he was urged by Dr. Liebig and his friend, Professor Erlenmeyer, of Munich,

to investigate the unsettled points in connection with bees and their products. To this he devoted ten consecutive winters, and on his return to Switzerland he continued his researches.

There is hardly another man who has given so much time to scientific investigations for the benefit of bee-keepers as Dr. de Planta. Being of independent means, and with characteristic zeal and energy, this amiable and benevolent man was able to devote considerable time for the advancement of the pursuit in which he took so great an interest. Although we knew Dr. de Planta by his works previous to 1883, it was in that year that we had the pleasure of making his personal acquaintance, and have from that time carried on a constant correspondence. In 1883, whilst at Zurich, we had the opportunity of seeing some of the results of our friend's work, and it was to settle some of the points undecided up to that time that Dr. de Planta undertook the work. The results of seven years' labour were represented in two small cases in the exhibition. He had been experimenting for seven years with a view to determining the constituents of honey, as he found this different to the nectar in the flowers; and he also wanted to determine what part pollen played in the production of honey or wax. A bottle contained pollen which had been got from hazel blossoms, and thirteen other bottles contained the different constituents of which this pollen was composed. Dr. de Planta explained to us the difficulty he had had in getting a sufficient quantity of pollen for experiments, and it was such as would have certainly deterred any person with less perseverance from prosecuting the experiments. The same difficulty was experienced in getting sufficient nectar, which had to be collected by means of a pipette and sealed up at once to prevent the action of bacteria. The constituents showed no coagulated albumen, but this was afterwards found in honey. He also found that whereas nectar contained cane sugar, honey contained none or simply a trace which could not enter into calculation. To determine what caused the difference, he tried to find out what part the glands played in the transformation. The way in which he carried out his experiments in this line is very interesting. He pounded a large number of heads of bees in a mortar, and dissolved out the saliva with glycerine, from which he was afterwards able to separate and analyse it. He found that by means of the saliva various substances in the nectar were converted into other substances which only appeared in the honey. This way he was able to prove that honey undergoes a change in passing through a bee, and that the saliva plays a very important part in producing this change. This determined, Dr. Planta tried to find out what prevented honey from fermenting or decomposing. This he found was formic acid, which is known to be a powerful preservative or antiseptic. Bee-bread was next experimented upon, and was found to contain pollen, honey, and saliva. Experiments on wax showed that it contained cerotic acid, myricene, and saliva; so that it is evident saliva plays a very important part in the products of the hive, which was quite unknown before that time. Another important work was to test the various substances on which bees could be fed with advantage for the purpose of producing wax. Bees were fed on honey alone, sugar and honey, sugar and yolk of egg, sugar alone, sugar-dextrine and rose water, gelatine and sugar. The combs produced from these substances were of various colours, those from sugar being the whitest, next came the produce of gelatine and sugar, third honey and sugar; fourth honey alone; and those produced from other substances were quite brown. He has further experimented on the methods of distinguishing between pure and adulterated honey. One of the grandest and most important works was that of determining the nature of the food of the larvæ and royal jelly, and thus confirming the view taken by Schönfeld that brood food was semi-digested and produced in the chyle stomach. In opposition to this Schiemenz, who followed Leuckart, stated that "The food is not produced in the chyle stomach, but is a secretion from the glands," and this view, without anything to corroborate it, was adopted by Cheshire. The subject is too long to go into now, but it will suffice to say that Dr. de Planta's chemical experiments were quite sufficient to set this theory competely at rest, and to show not only that Schönfeld was correct, but that the anatomical structure of the bee was specially adapted for the particular way of feeding with chyle, and that the food given to the different larvæ differed in quantity and quality, according to their development. It would take too much space to go into the full details here, but those interested will find full particulars in "The Honey Bee" (by T. W. Cowan) and back volumes of B.B.J. Dr. de Planta occupied himself with other chemical studies, more particularly with respect to the esculent properties of various vegetables. The amount of work done in connection with bees may be judged from the following papers and memoirs published from time to time:—"Chemical Studies of Bees" (in conjunction with Dr. Erlenmeyer), 1878 to 1886; "Economy of the Hive;" "Pollen, Bee-Bread, and the Ferments which they contain;" "Methods of Distinguishing between Pure and Adulterated Honey;" "Cappings of Brood Cells;" "The Presence of Formic Acid in Honey;" "The Collection of Pollen by Bees;" "What Causes the Colour of Wax;" "Detritus Collected in Hive;" "Chemical Composition of Hazel Pollen;" "Experiments in Artificial Feeding of Bees;" "Analysis of Barricades Constructed by Bees;" "Chemical Composition of some of the Nectars;" "Composition

of Brood Food:" "Fruit Sugar as Food for Bees;" "The Formation of Honey and the Elimination by the Bees of Water from Nectar," &c., &c. These are some of the works for which bee-keepers are indebted to Dr. de Planta. He was busy at his favourite subject even up to the last, for only a few weeks ago we had a letter from him in which he told us that he was occupied on the pollen (bee-bread) in cells. Here is an extract from his letter:—"I am occupied with a big work on bee-bread (Bienenbrod). I have made partly myself, and have had done by an assistant, the analysis of combs, honey, cane-sugar, pollen, and bee-bread. As a result, the proof will be furnished that the opinion of Gerstung with regard to the degeneration of colonies of bees, on being fed on sugar, without pollen, is perfectly correct. What is self-evident, and is found by practical experience, will be confirmed and decided by figures derived from analysis." The letter concludes by informing us of the proposed exhibition to be held next year, and inviting us to be present.

We are pleased to be able to present our readers with a portrait, reproduced from one appearing in the *Revue Internationale* of December last.

For some time Dr. de Planta was president of the Swiss Bee-Keepers' Association, and entered heartily into the work of that society. Last year he was elected honorary member of the British Bee-Keeper's Association, in consideration of the services he had rendered in the advancement of the science of apiculture. We have only briefly alluded to some of Dr. de Planta's work, but it is sufficient to show the great loss sustained by bee-keepers, and, in company with our Swiss brethren, we mourn his loss, and extend to his widow and children our heartfelt sympathy.

BRITISH BEE-KEEPERS' ASSOCIATION.

CONVERSAZIONE.

(*Concluded from page* 103.)

After various remedies and their relative values as disinfectants had been discussed by several gentlemen present, Mr. Cribb said that probably every workhouse had a steaming-chamber for disinfecting purposes, which might be utilised by bee-keepers' associations. Mr. Webster thought his own suggestion met the difficulty. Mr. Meggy remarked that all the fever hospitals had steam chambers. Mr. Cowan suggested—as a disinfectant which was in vogue before they knew so much of foul brood as they did now—the boiling of hives for ten minutes or a quarter of an hour, using a food-boiling copper for the purpose, and the washing afterwards with salicylic acid. This was his method when he cured his bees of foul brood about twenty years ago. He then fed with salicylic acid, and has never used other than medicated syrup since. At the request of Mr. Cowan, who said that bromine and chlorine had been recognised as powerful disinfectants, the Rev. Mr. Bancks explained his experiments with bromine. His object was to ascertain whether it was possible to use an agent which would not only arrest the development of *bacilli*, but destroy the spores without damaging the bees, and he had been fairly successful in his experiments with bromine. After two seasons' use of it he found, out of thirteen affected stocks, nine were free of the disease last summer; but he could not say that his investigations had proved conclusively the curative effect of the agent, but he thought they did establish that a powerful drug like bromine could be employed without injury to the bees. He meant to continue his experiments with a view to obtaining more precise conclusions. Extreme care must be exercised in using bromine, because the fumes from it were overpowering, and very objectionable if they became lodged in the throat. His plan was to pour a small quantity (a teaspoonful) of the drug into a saucer and place it at the back of the hive and allow it gradually to evaporate, the vapour within a few hours penetrating every crack and crevice of the hive. Bromine costs one shilling per ounce, and different degrees of strength could be obtained; if the ordinary disinfectant strength were used, about three teaspoonfuls in the place of one would be required. It was a white powder, and water added to it liberated its essence. He found three or four applications necessary or desirable, each time putting the saucer in a different place. He recommended the experiments to be made when there was very little or, preferably, no brood in the hive.

Mr. Till asked whether it would not have been more economical to import new stocks, and begin *de novo*.

Mr. Bancks thought not, but in any case it was of great importance to find an agent that would destroy spores without inflicting other damage.

Mr. Webster said that when the least amount of brood was in the hive the greatest amount of honey would be there. Would the fumes disinfect the honey capped in the cells? This was an important matter, because honey was a great means of spreading contagion.

In reply to this and other questions, Mr. Bancks said he could not tell whether the honey became disinfected, but could only point to results. From these he knew the brood was killed because he had seen the larvæ dead, which were in few instances uncapped, although destroyed; that he had destroyed one stock altogether through mistakes in experimentation; that in order to prove that the spores had been destroyed he subjected a piece of diseased comb to the fumes of bromine, and afterwards inoculated a tube with some of the contents, and found that

no development took place, whilst with the same process he obtained immediate cultivation from a diseased comb that had not been submitted to bromine.

Mr. Carr said that after the terrible tale of difficulties to be encountered in the destruction of foul-brood spores every one must pity the poor bee-keeper; but there was some consolation in knowing that Mr. Cowan had met abroad a bee-keeper who owned no less than 1,000 hives, and who declared that he did not care a a bit for the disease, which he could always master by the use of Hilbert's plan, or by fumigation with salicylic acid. That was a simple remedy, and, if effectual, why was it not more generally adopted? It was said that frequent application thereof was sufficient to keep down the disease and make the apiary a prosperous one.

Mr. Cowan said that when he attended the Bee-keepers' Conference at Milan the question of foul brood was considered, and Mr. Cheshire's remedy, phenol, discussed. The conclusion was arrived at that phenol was too complicated to use in comparison with salicylic acid, and M. Tartuferi, who lived near Naples and owned 1,000 hives, said he had had foul brood in his apiary, but was indifferent to it, as he was always able to keep it in check by means of salicylic acid. A number of bee-keepers both in Germany and Switzerland had also relied on that remedy for their success. In the face of evidence like that it was nonsense to say that drugs in certain cases were inefficacious. They could not suppose that experienced men like these did not verify their experiments, and stated what was not true. He (Mr. Cowan) had seen large apiaries that had been cured. M. Jeker, of Soleure, Switzerland, was lecturer, and gave courses of instruction in the German part of Switzerland every year on bee-keeping, and he is also a prominent bee-keeper, and was for some years president of the Swiss B.K.A. M. Jeker had fifty hives in a bee-house in which every hive was attacked with foul brood, and he cured the whole entirely with salicylic acid. Whenever the disease showed any signs of reappearing, the acid speedily stopped it. M. Bertrand, who visited us last summer, had foul brood badly in his apiary and cured his bees, and has kept the disease at bay in the same manner. He heard a few days ago that in Germany the evil had reached great proportions, as many as 3 per cent. of the hives in Silesia being affected with it. In one district they had a system of insurance amongst the local bee-keepers for the purpose of indemnifying the members on account of losses resulting from foul brood.

The Chairman (Mr. Glennie) had in the old days applied the salicylic acid remedy, by giving it in the autumn food, and sprinkling it over the hive and surroundings, and had been fairly successful; but the scourge had not then made such havoc as recently. He was sure they would all look forward with pleasure to the information Mr. Cowan was shortly going to publish on the value of remedies.

After a vote of thanks had been passed to him, the Chairman retired, and Mr. Till took the chair.

Mr. Brice exhibited a combined travelling and introducing queen cage, which he had used with excellent results. The cage was in two parts, fitting into each other for convenience in packing, one part being an adaptation of the ordinary wooden travelling cage, but having a wire gauze top and an opening in the bottom covered with an easily movable slide, the other part being a wire gauze cage open at the top, and so cut as to fit level with an ordinary top-bar. Mr. Brice said he found the advantages of his cage were that the elements of chance in introducing queens were to a great extent removed, and all danger of injuring the queens by handling them entirely obviated. On receiving a queen it could at once be seen if she was alive and well. Assuming the queen to be satisfactory, her safe introduction was reduced to a pure mechanical operation, with the almost absolute certainty of success. Mr. Brice then gave full detailed instructions, showed in detail how the safe introduction of the queen was effected by the bees themselves, and concluded by observing that he had introduced a number of queens by this method, and had not had one single failure. He thought the breaking away of the caps of the honey cells, causing the honey to flow both inside and outside of the wire cage, had much to do with the success of introducing queens by this plan.

Mr. Greenhill then exhibited his new make of the "W. B. C." hive, which, as he explained, contained all the good points of the original, together with some additional advantages, such as allowing the body-box to be worked either right-angled or parallel to entrance at will. The deep "lift" for roof could also, by reversing, be made to slip down over the body-box in winter, and thus give further protection from extreme cold.

Mr. Carr next showed a contrivance made by Mr. Brown, of Somersham, for use on the "Wells" hive. Though called an "equilizer," it was practically a "candy-feeder," by means of which it was claimed by Mr. Brown that the bees in both compartments of the hive fed from one cake of candy placed in a box covered on its under side with excluder zinc, and on the upper side with a sheet of glass, through which it could be seen when the candy was taken. The box extended over both compartments of the hive, and the bees were thus induced to cluster for breeding just where mutual warmth would be beneficial to both lots of bees, *i.e.*, on and close to the perforated division board.

The several contrivances exhibited were handed round for inspection, and met with general approval; and owing to the lateness of the hour some other things intended to have been shown, were held over till the next quarterly conversazione.

In bringing the proceedings to a close, the Chairman spoke of the indebtedness of all bee-keepers to Mr. Cowan for the immense services he had rendered to bee-keeping, and the pains and trouble he was now taking in the preparation of evidence for the Board of Agriculture. They were also much obliged to the county associations for their help in such matters, and they wanted to see the system of county organisation carried out thoroughly. He recommended the circulation of the monthly *Record* in the counties gratis to all subscribers, with a cover reporting the local news, which he believed would increase the membership. There was a great dearth of experts, but he was glad to hear of the remarkable proficiency of many lady bee-keepers in the counties.

After a vote of thanks to the chairman the proceedings terminated.

(*The Annual Report will appear next week.*)

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on 5th inst., present, Capt. Millner, in the chair, Dr. Traill, Mr. O'Bryen, and Mr. Chenevix (hon. sec., of 15, Morehampton-road, Dublin). In response to an invitation from Mr. Cowan (chairman of the British Bee-keepers' Association), Capt. Millner was appointed to represent the Association on the deputation to Mr. Gardner (president of the Board of Agriculture) which is to ask for Government aid in dealing with foul brood. The annual general meeting was fixed for April 18.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2260.] Once more the month of March—the opening month of our "bee-year"—is with us. The fears of February have been proved real or not by results. The hive roll has been called over; defunct colonies cleared out; and frames of food distributed to the needy ones; and the empty combs secured for further use when colonies are building up later on, and to help to bring the nucleus colonies up to supering strength by the first week in June. Where removed combs contain a large quantity of mouldy pollen they may be profitably rendered into wax, which is scarce and dear just now.

Then all empty hives should be scrubbed out, first removing all adhering wax and propolis with a scraper, or an improvised substitute for one; well wash out with soft-soap and boiling water, and when dry the hives will be equal to new ones for your first new swarm of bees in May or June.

Now a few closing words on "Hints for Discussion," and to quote Sancho Panza, I ask, "Is it a good law of chivalry that says we shall wander up and down, over bushes and briars, in this rocky wilderness?" of discussion, which anyone may see is not convincing to either party. Mr. B. draws largely on his imagination in the par. (second column page 95), where he says the "germs of *bacilli* are floating in the air in so many thousands to the square inch, saturating the very breath of life in and near such a plague spot." Dr. H.'s experiments, if recorded in only a third-rate pamphlet, proves very much the contrary of the ideas of Mr. B. If these germs are (?) floating around these plague spots, how was it that the brood inclosed in a close place within a short distance did not receive infection? The ordinary putrefactive germs reached it, but not the germs of *bacilli*.

The two facts Mr. B. prides himself as having elicited were patent to any one who had read my correspondence, and my opinions as to compensation are clearly stated therein. I maintain that agricultural labourers working perhaps for the munificent sum of 9s. per week should receive compensation if their little all be consigned to the flames, to insure immunity from disease for their more opulent neighbours.

The chief object (I find in past numbers of BEE JOURNAL) is to obtain the act for the suppression of foul brood by the strong arm of the law, and while I am at one with the most ardent having that object in view, I feel that our knowledge of how to set to work, and our preparedness to do so, should run concurrently with our acquisition of the power. In fact the method of cure seems to me of equal, if not of greater, importance than the mere power of the law. In any interview with the Minister of Agriculture I have no doubt that gentleman will ask: "How do you propose to deal with this disease if powers are granted for the purpose?" Now please—my brother bee-keepers of the deputation—have you a unanimous answer ready for that probable question? I maintain that we must be ready and agreed beforehand on the course of action we intend to follow before we can hope to convince the Board of Agriculture of the necessity for, and our capacity for carrying out the powers asked for to a successful issue.

I notice that a new edition of "Modern Bee-Keeping" is to be issued; I trust that full instructions will be given in relation to all phases of the foul-brood question. At the conversazione, the Rev. G. W. Bancks suggested the disinfecting of hives by burning out the interiors with kerosine or paraffin. Now, referring to the difficulty of getting into the corners and crevices, I beg to suggest a handy tool for this job. Get a French blow-pipe, such as painters use for burning off old paint; with this in hand you can char all corners and crevices inside hives. I have used one occasionally for twenty years for brazing gold, silver, brass, and iron articles, of course laying the articles on charcoal; but if fire will kill our salamander, I think this article will meet the want. Paint your hives inside with the paraffin, kerosine, or petroleum, then fill your lamp with methylated spirit, and half-fill the boiler with spirit, light the wick, and as soon as the spirit in boiler begins to evaporate the flame of lamp is projected by force of the escape nozzle being brought to a level with centre of flame. Care must be taken to keep some spirit in boiler, and not have too great a flame from wick. If you want to extinguish the lamp, raise it, and blow sharply under the flame.

During last summer I had complaints from different parts of the country about bees objecting to work out foundation in supers, and asking my opinion on the subject. In some few cases the bees built combs on the dividers, rather than touch the foundation, which was left severely alone. Now as this subject concerns all of us, more or less, I have reverted to it again. My opinion was that soap was used as a lubricant in the machine, and that the bees were disgusted with the flavour. The matter rests with our foundation manufacturers, who are no doubt looking out for the best, and at the same time, the cheapest lubricant for the job.—W. WOODLEY, *Beedon, Newbury.*

APICULTURAL NOTES.

A TRYING TIME FOR THE BEES.

[2261.] I have been a bee-keeper between twenty and thirty years, during which time we have had all sorts of seasons, but I never knew a worse time for bee-keeping than has been the last twelve months. A dry spring, with cold north-east winds. Bees had to be fed up to the middle of May to prevent starvation. Then came the wet, cold summer. Swarming difficult to control. Surplus honey practically nil. The only profit that the apiary could be credited with for 1894 was increase of stock. My apiary — or rather apiaries—had grown from seventy to 100 stocks. This increase was brought about by natural swarms, artificial swarms, and driven bees. In the latter case, ready-built combs were used. In addition to the above I purchased about twenty stocks in skeps, bringing up my total to something like 120 colonies. The skeps were in first-class condition, and were, therefore, passed by as all right for the winter. I then went through the 100 stocks in frame hives, and marked on the top of each hive that was short of food the quantity of syrup considered necessary to carry it safe through winter. Having supplied each hive according to the note it bore, I then went through them a second time, to make sure that my calculations had not fallen short of the actual requirements, and in several cases when going my second round I made the remark, "Wants 3 lb. or 6 lb. syrup," although at the same time I did not believe that a single ounce was really necessary; but I had made up my mind that if there was any mistake it should be on the right side. Nearly a quarter of a ton of sugar was used. I then made a final examination. In some cases the combs farthest from the bees contained the largest amount of food, when a change of position was made—that is, the combs with the most stores were placed close to where the bees had clustered. Strips of wood were laid across the frames to afford winter passages, and extra quilts were added, consisting of carpet, chaff cushions, or any suitable material that came to hand, and I was satisfied that every stock in my apiary would be perfectly safe for six months, both as regards food and warmth, to face any winter that might follow. But the autumn was just as unfavourable as had been the spring and summer. Mild weather prevailed right up to the end of the year, and I never knew stores to disappear so rapidly at that time of year. Supplies which in nine cases out of ten would have lasted up to the end of the month were practically exhausted by Christmas. Before the close of the year three of my stocks were on the verge of starvation, when the commandment, "Give bees no syrup in winter," was quickly broken. A couple of quarts of warm syrup was given to each stock, which they soon appropriated, a lump of candy added, and all covered down snug and warm. Those stocks are now amongst my best. Others would have been similarly treated, but the new year brought with it new weather, which would not allow any further breaking of the commandment referred to. Candy feeding, therefore, had to be relied on. I made it a practice to go through my hives once a week and give candy where required. But one day, in the beginning of February, when going my usual weekly round, I discovered, to my great annoyance, that two of my best stocks had died of starvation. One had got a nice lot of sealed honey, but had failed to make use of the winter passages provided. The other was marked "Wants candy." The candy arrived, but it was just too late. To avoid a repetition of such catastrophies I set to and supplied every stock in the apiary with candy—no trifling job to make

up candy for 100 colonies, nor will the cost of sugar be trifling either. I calculate that from the close of last season until my bees are able to provide for themselves I shall use from 15 cwt. to 1 ton of sugar. That, however, does not dishearten me; the cost will be charged to the bees, which they sooner or later will have to settle, or eviction will follow. I believe they will do their very best to avoid the latter course being taken. But when one spares neither time nor money, and deems nothing too much trouble that is likely to be conducive to the well-being of his bees, and then, in spite of all, find his best stocks dying, one does not, under such circumstances, find his enthusiasm go up by "leaps and bounds." But old hands at bee-keeping, as well as young ones, often get stung. In the former case, however, the effects soon wear off.

The spring, summer, and autumn then was as unfavourable for bees as it could possibly be. Then came the winter, the likes of which some of us had never seen, and we don't mind if a repetition of such does not come for a very long time. Two long months of zero weather —that's the best name I can find for it— during which time the poor bees could not stir a peg, only as they dropped down dead on the floor-board. Several of my stocks died with honey in the hive and candy on the top of frames. The candy had been eaten away just as far as the cluster of bees extended, but no farther. Others died with candy right over the cluster. Candy is capital stuff to eke out stores; but I quite agree with Mr. Webster that bees won't live on candy alone. We are now getting well into March, and although we have had a few mild days—of which I took advantage and gave the bees half-a-dozen pailfuls of syrup—there has not been a single day warm enough to open a hive with impunity, nor have the bees yet had a thorough cleansing flight. So far as I can at present see, my losses from all causes will bring my 120 colonies down to about 100, the main cause of my loss being dysentery, of which I will, with your permission, have something to say next week, which I doubt not will interest, and perhaps benefit, some of your readers.—A. Sharp, *The Apiary, Brampton, Huntingdon.*

THE BERKSHIRE BEE VAN.

[2262.] Arrangements are being made for something like three months' work with this van during the coming season. One month in Berkshire and upwards of two months in Surrey have already been arranged, under the auspices of the respective County Councils.

In order to make the tour as comprehensive as possible, a collection of appliances is carried by the van for the purposes of illustrating the lectures, and the hon. secretary will be glad to hear from manufacturers who would like to send samples of their specialities to be included in the collection. It will be impossible to take many hives or the larger appliances owing to want of room, but if makers will forward a list of what they would be willing to send it shall have careful attention.—Address, The Hon. Secretary, Berks B.K.A., 17, *Market-place, Reading.*

DEALING WITH FOUL BROOD.

RE-QUEENING AS A REMEDY.

[2263.] Referring to "Notes by the Way," under the heading, "The Foul Brood Question," (2224, p. 64), Mr. W. Woodley says: "I know an apiary where every remedy has been tried that has been recommended by science, except Blow's remedy, not in a muddling way, but intelligently and persistently, for the past eight or nine years, yet, though the disease has been held in check, the bees have not been cured in a single colony." I should like to ask if the experiment of removing the queen, and substituting a healthy laying queen before administering the medicine, has been tried? If not, the secret of success will be found in this direction. If a hive is affected with the disease, it is right to assume the queen is also; and so long as she is producing diseased eggs, the phenol does not appear to reach the fountain-head, unless it is given strong enough to kill the queen. That it will kill the bacilli we do know, but there appears to be a doubt about the spores. Now if we first stop the production of bacilli by the queen, then destroy what are already existent in the hive. We certainly must also stop the production of spores at same time, and, having substituted a healthy laying queen, the disease quickly disappears —at least, so I have always found to be the case. What becomes of the existent spores I cannot say; but certainly after spraying the combs, and feeding the bees with phenol syrup, I have never had any return of the disease under the system, and I have really cured some bad cases.

As regards the McEvoy method of cure, it is so opposed to all my experience and practice that I am inclined to believe there is more than one kind of foul brood disease.

I should like to suggest the compulsory registration of all bee-keepers in the British Isles, for it is no use giving power of examination and destruction unless we know where to find the hives, and if once we commence the operation of stamping out, the work must be thoroughly well done, and nothing less than the total destruction of all diseased stocks, together with all empty hives in every diseased apiary, will satisfy me that we have a chance of success, for I have known the introduction of empty hives—the remnants of diseased apiaries—into a healthy apiary after nine years to destroy every stock in the place. And I also say, stop the importation of foreign bees, too, for unless every precaution is taken we shall fail.

As regards compensation, if we have a

register kept we might possibly invent a system of insurance which would cover all costs of destruction, and so make every bee-keeper contribute to the expense of freeing him from the disease.—THOS. F. WARD, *Church House, Highgate, March* 4.

[The advantage of a change of queens in obstinate cases of foul brood has long been admitted, and, besides being mentioned on p. 148 of *Guide Book*, it was specially referred to in a paper read by the present senior editor of the B. J. at the Conference of Bee-keepers in 1886, wherein he remarks :—"I have found in obstinate cases that the removal of the queen, and her replacement by another aids materially in affecting a cure." As a rule, however, it may be said, the source of mischief lies outside the queen.—EDS.]

COUNTY HONEY LABELS.

ADVANTAGE OF HONEY-SALES SCHEME.

[2264.] Some weeks since a letter appeared in your columns intended to show that the use of association honey labels was of no help to the bee-keeping industry. I send you the enclosed correspondence. It will throw a somewhat different light upon the subject. For obvious reasons you will suppress names, &c., and I would also add that there is no intention to reflect on the *bona fides* of the writer referred to, but rather to show the advantages of the honey-sales scheme initiated by this association.—A. D. WOODLEY, *Hon. Sec., Berks B.K.A., March* 7.

It would occupy too much space to print in full the half-dozen letters embraced in the correspondence referred to, the gist of which lay in the fact that a bee-keeper happening to run short of honey wherewith to supply his regular customers, purchased a dozen jars of good-looking honey from a shopkeeper in the town of Reading, and on which was the Berks B.K.A. label. Reaching home he proceeded to melt a jar of the honey to see its quality in liquid form. This he describes as being "black as coal" when melted ; altogether of very inferior quality, and such as he could neither eat nor sell. Complaint was then made to the hon. secretary of the Berks Association ; the name of firm from whom the honey was purchased being given. In reply to this the buyer was requested to forward a sample of the honey to the hon. secretary for inspection. This was done, and resulted in the following reply being dispatched to the sender :—"I have carefully examined the two sample jars of honey you sent at my request, and find that the candied honey is of first-class quality. You appear to have melted the contents of the other bottle in a very careless manner ; in fact, it has all the appearance of having been raised to boiling heat. You should have known that honey will not stand this. I am returning both bottles to show you that it is entirely your own fault. I have melted the bottle of candied honey, and you must admit that the result is everything that could be desired. Therefore, I have no hesitation in saying that the seller of the honey is entitled to an ample and unqualified apology from you for having either through carelessness or want of knowledge misrepresented the quality of his goods."

To this communication a reply was returned from which we quote a portion below :—

"I am very sorry to have put you to so much trouble, as it was entirely my own fault in melting the honey down. I put the jar on the stove when going to bed, and did not dream of the honey getting too hot ; but, as you say, it must have boiled. I have never had any overheated like it before, and I will take good care it don't happen again. I beg to withdraw all I have said about the honey being of an inferior quality. I wrote off to you in too much haste, and therefore ask you to accept this full apology. I am writing to ——— to night to apologise for same, and trust I have not injured your association or his firm's business in any way."

[The above serves to illustrate the fact that a county label on the jar is extremely useful in affording an opportunity for clearing up such unfounded charges as that made by the purchaser of the honey in dispute.—EDS.]

HONEY FOR CHILBLAINS.

[2265.] Having noticed the letter of "A Lady Bee-Keeper" (2203, p. 38) recommending honey as a cure for the above, I advised my daughter—who was troubled in the same way—to try honey in the way described by your correspondent. She did so, and next day came running to tell me how much better her feet were. Since then she has made no complaint at all of difficulty in walking, though she has to go a mile to and from school daily. — R. CHAPMAN, *Newton Kettering, Northants.*

Queries and Replies.

[1238.] *Stock with Drone-breeding Queen.*—In your issue of October 25 last, page 429 (Query No. 1187), you were good enough to give your opinion. I wrote the dealer from whom I bought the queen. He insists on the fertility of queen sold. Stock has been untouched since packed in autumn for winter till February 25 last, when I had a peep, and gave a cake of candy. Bees seem lively, but of course not nearly so numerous as one would like. I have only the one stock, and supposing it to be queenless, or having a drone-breeding queen, what would you advise me to do ? I intend to buy another stock soon. Would it do to stimulate this new stock, and

transfer a frame of brood to old one in hope of them raising a queen?—J. W. CHALMERS, *Kirkwall, Orkney.*

REPLY.—Presupposing that the stock has had no other than a drone-breeding queen at its head since August of last year (in accordance with the query referred to), the bees in the hive will be utterly worthless for either re-queening or any other purpose.

[1239] *Transferring and Uniting.*—Last autumn I drove bees from two skeps into two wooden hives of my own make (not standard frames), and now wishing to start with standard size, will be grateful for advice on the following points:—1. Would you recommend transferring the bees into standard-frame hives filled with comb foundation this season, and when should it be done? 2. The number of bees being apparently few, could the two lots be advantageously united now? 3. Having bees in straw skeps, could they also be transferred to advantage? 4. What flowers could be grown about the hives to produce honey?—GOONMILLY AMATEUR.

REPLY.—1. Unless the help of some experienced hand is available, we should not advise transferring the combs and bees to new frames. 2. If there are less than three seams of bees in each hive now, it will be advantageous to unite, care being taken to preserve the best queen, *i.e*, the one which has the most hatching brood. 3. No. Better keep the skeps for swarms, and stock new hives with these. 4. Excepting a few for early bloom, it should not be necessary to grow flowers for honey. If the district does not produce a natural source of supply, it will not pay to provide one.

[1240.] *Renewing Combs.*—I have a number of hives in which the combs are rather unevenly built within the frames. During the coming season I want to remove these combs and insert Abbott's patent frames, will you kindly tell me the best way to proceed not to injure my bees?—R.S., *Somerset, March* 4.

REPLY.—The best way to have straight combs built under such circumstances is to select a couple of the straightest combs and insert between them a new frame fitted with full sheet of foundation. When this is built out, give another frame (fitted as before) next to the recently built one, and repeat till all are renewed.

Echoes from the Hives.

Durban, Natal, S. Africa, February 9.—Bees are very active here now, it being the middle of summer; but so far it has not been a good season—too much rain.

There are a good many "bar-frame-men" out here, but I have only just began myself, and as the country varies in climate from almost tropical to quite cold, with frost and snow, there is a good opportunity for observing bees under different conditions. As a subscriber to the B.B.J., I can sympathise with you in the "Foul Brood" campaign, but I have not heard of it being out here. A. C. SEWELL.

Woburn Sands, March 11.—Bee weather has come at last. My bees have come through the winter and are in first-rate condition. They have been busy carrying pollen in to-day in most of my hives.—E. BOYES.

WEATHER REPORT.

WESTBOURNE, FEBRUARY, 1895.

Rainfall, ·19 in.	Brightest Day, 28th, 9·6 hours.
Heaviest fall, ·10 in. on 1st.	Sunless Days, 6.
Rain or snow fell on 3 days.	Above average, 29·8 hours.
Below average, 1·44 in.	Mn. Maximum, 34°.
Max. Temperature, 44° on 23rd.	Mn. Minimum, 21·5°.
Min. Temperature, 13° on 7th.	Mean Temperature, 27·7°.
Minimum on grass, 5° on 7th.	Maximum Barometer, 30·37° on 17th.
Frosty nights, 27.	Minimum Barometer, 29·31° on 11th.
Sunshine, 123·3 hours.	

L. B. BIRKETT.

METEOROLOGICAL SUMMARY.

FEBRUARY, 1895.

Locality, Stoke Prior, Worcestershire.

Height above sea-level, 225 ft.

Rainfall, 0·09 in.; greatest fall in 24 hours, 0·06 in. on the 24th. 1·75 in. fell in February, 1894.

Rain fell on two days; in February, 1894, on thirteen days.

Max. shade temp., 41° on 24th and 28th; max. for February, 1894, 54°.

Min. temp., minus 3° on 7th and 8th; min. for February, 1894, 20°.

Max. shade temp. at 9 a.m., 40° on 28th.

Min. temp. at 9 a.m., 4° on 8th.

Frosty nights, twenty-eight; during February, 1894, fourteen.

Max. barometer, 30·2 on 16th, 17th, and 18th.

Min. barometer, 29·49 on 11th.

An unusually cold month. Some severe frosts. Thirteen days during the month the maximum temperature was less than 32°. On three nights the mercury was below zero. The snow that fell during January had not entirely disappeared by the end of February. A falling barometer with warmer winds from the S.W. at close of month. The first snowdrop out on the 27th. Stocks on the whole have so far wintered well in this neighbourhood. Few losses reported.—PERCY LEIGH, *Beemount.*

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. WHITE (Toddington).—*Curing Foul Brood by Means of Drugs.*—The causes of failure to cure, and the possibilities of holding the disease in check were so fully discussed at the annual meeting of the B.B.K.A., and the subsequent conversazione, as reported in B.J. of the 7th inst., and continued in this issue, that our correspondent will find the case—as put by himself—fully met. We would especially refer him to what appears on page 93 of last week.

ROBERT S. ROUTH (Longstock Vicarage, Hants).—We thank our correspondent for the expression of his views on foul brood and compulsory powers, and venture to think very hopefully that those who have the matter in hand will be enabled to guard him—and those who constitute the small minority of bee-keepers who are opposed to any action being taken—from the evils he and they fear, and that the "delightful time" he ruefully anticipates will exist only in the imagination. Please refer also to reply to J. White above.

E. A. FARTHING (Plymouth). — *Bees and Dysentery.*—We hope you made quite sure the bees were really suffering from dysentery before dealing with them as stated, because, after long confinement, the mere taking of a cleansing flight will sometimes cause rather alarming symptoms to those not experienced in the form of "spotting" on the outside of hives. If dysentery, it was the proper course to give the bees a clean, warm hive, and keep combs; but to "extract the contents" of the full combs, and depend on candy for their food, keeping the bees alive, alarm us for their safety, especially when we are told that "the candy has become so hard that it is still untouched." The bees should certainly have a comb of food given them, uncapping the honey first.

J. HAMSHAR (Burgess Hill).—*Doubled Stocks.*—1. Hives worked with two body-boxes, each containing ten standard frames, should always be reduced to a single story (or ten frames) for wintering. 2. If the ten frames forming the brood-chamber are filled with good worker combs, with cells free from hard old pollen, and available for brood-raising, you will get the best result in section honey by confining the queen to the ten frames and giving sections overhead. 3. There is no truth in saying that the simple fact of replacing an English queen with a Ligurian will cause foul brood.

F. COCKETT (Battle).—The frame of comb, with dead bees and brood in cells, strongly points to starvation as the cause of death. The fact of stores being still in the hive only shows that the bulk of the bees have moved on to such of the combs as contained food, while those on the comb sent have clung to the hatching brood to protect it as well as they could; and subsequently died, after every particle of food in the comb was consumed. There is no trace of disease.

J. MANSON (Renfrew).—*Artificial Comb.*—Since ordering some of the comb referred to from the manufacturer who sent the sample we have heard nothing further of it. Should an explanation of the delay be forthcoming, or the comb be put on the market, our readers will at once be made acquainted with the fact.

SHANNON (Castle Connell).—1. Simulating should begin about six weeks before the usual date the honey harvest begins in your district. 2. You had better rely on natural swarming for increase, and put the swarms on the old stands, giving them the surplus chambers on at the time of swarming for completion, and moving the parent hive to another stand some distance away. 3. Write to H. Chenevix, Esq., 15, Morehampton-road, Dublin, who will no doubt help you with information as to expert help.

THOS. L. SMITH (St. Asaph).—1. The old queen accompanies the first swarm, and remains at its head in the new home given the bees. 2. The skeps may be placed above frame-hives as suggested at beginning of May, and will transfer themselves thereto.

KENELM GOSS (Swansea).—*Moving Bees*—If you proceed according to the method stated, the bees may be safely moved at this season. Mind you choose a hive in which there is hatching brood on two or more combs.

ENQUIRER (Hants).—See reply to E. A. Farthing.

J. JONES (Banstead).—Comb is affected with foul brood.

J. H. HORN (Bedale).—*Royal Show.*—Mr. J. Huckle, Kings Langley, Herts, secretary of the B.B.K.A., will on application supply schedules of prizes and other particulars regarding the show at Darlington.

T. J.—Refer to Mr. Banck's remarks in report of B.B.K.A. meeting on p. 104.

BLADUD (Bath).—Both bees sent are adult queens, but we cannot tell their age.

WM. BAKER (Cawood).—Comb received contains only pollen and honey. No trace of foul brood.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, on Thursday, the 14th inst. There were present T. W. Cowan (in the chair), Rev. G. W. Bancks, Major Fair, H. W. Brice, W. B. Carr, J. Garratt, H. Jonas, J. H. New, E. D. Till, and J. M. Hooker (ex officio), John Huckle, secretary. Communications were received from Mr. Harris (who had previously attended a sub-committee meeting), Hon. and Rev. H. Bligh, and Mr. C. H. Hooper, regretting their inability to be present. The minutes of the previous meeting of the Council were read and confirmed. The statement of accounts to February 28 was considered and adopted.

The Council had under consideration the advisability of making special arrangements to afford those experts whose certificates were issued prior to 1891 an opportunity of competing for a certificate of competency in the knowledge and treatment of foul brood at the earliest possible date. Resolved: "That such examination be held on Saturday, May 11. Candidates to give notice of their intention to enter such examination on or before April 20, and to pay an entrance fee of 2s. 6d."

The several standing committees for finance, exhibitions, educational, and other work were duly appointed for the ensuing year.

The special committee on Foul Brood, who met earlier in the day at the offices of the B.J., 17, King William-street, W.C., reported having had before them a considerable amount of correspondence and information from various sources relative to the foul brood question received since they had last met. All useful suggestions had been carefully considered, and the salient points collated and embodied in statistics, which are being prepared for presentation to the President of the Board of Agriculture in due course.

The Chairman reported that Mr. Till and himself had had an interview with the Secretary to the Board of Agriculture, and were most cordially received, much valuable advice being given to them, which was calculated to be of considerable assistance to the committee in framing the suggestions for an act for the suppression of foul brood among bees. The following new clause of a draft bill was brought up for consideration:—"That any person having reason to suspect the existence of foul brood in an apiary not his own shall forthwith give notice in writing both to the owner of such apiary and to the inspector for the district. The inspector shall at once notify to the owner of the apiary the fact of such notice having been received, and that an inspection of his apiary must take place within fourteen days." It was also resolved to add a clause giving power to an inspector to deal with errant swarms of bees in trees, rocks, or buildings, or wherever found.

The Chairman called attention to the report as to Irish bee-keeping, in which it was reported that a less quantity of honey was now gathered in Ireland than formerly, owing to the great prevalence of foul brood.

The following new members were elected, viz., Dr. Percy Sharp, Brant Broughton; Mr. H. E. Hall, 111, Peckham-road, London, S.E.; and Mr. J. Helsby, 35, Denmark-street, Watford.

The Council adjourned to April 12.

In our report of the proceedings at the recent *conversazione* of the B.B.K.A., we inadvertently omitted any mention of the set of fine stereoscopic slides on bee subjects photographed by Mr. Alfred Watkins, hon. sec. of the Herefordshire B.K.A., and lent by him for the occasion.

The slides were much admired by those present, and added considerably to the interest and pleasure of the evening. We are asked to express the thanks of many present to Mr. Watkins for his kindness in lending them.

REPORT FOR 1894.

The annual report of the council of the B.B.K.A, submitted at the annual meeting on the 21st prox., contains matter of such general interest and importance to the bee-keeping community that we subjoin an abstract thereof as under:—

"The year 1894 has proved to be one of marked importance in the advancement of bee-keeping. The council of the British Bee-keepers' Association consequently find much pleasure in submitting the present report.

"The forward movement, initiated toward the close of the preceding year, has been energetically maintained, and the resultant operations have been immediately productive in increasing the popularity of bee-keeping and in elevating its status as a practical industry. The year has also been marked by a material relief of the financial strain, which in the past has seriously hampered the activity of the association.

"The influences and means which have conduced to this progress have been of various kinds. The London and Provincial Press has freely opened its columns to correspondence on matters relating to apiculture. Many of the County Councils have included it in their courses of technical education, and have devoted important sums to establish it as a profitable rural industry. Several technical colleges have included it in their curricula of instruction. Important shows, such as those of the Royal Agricultural Society, at Cambridge; the Royal Counties Agricultural Society at Canterbury, and the Dairy Farmers' Association, at the Agricultural Hall, have furnished occasions for the holding of excellent exhibitions of honey, honey products, and bee-keeping appliances. These have taken place under the direct management of the B.B.K.A.; while other very successful shows have been held by the affiliated associations in many

counties, and these have proved most useful in giving instruction throughout the country in the best methods of honey producing.

"*Finance.*—The council desires to direct careful attention to the improved position of the association, and to express its warmest thanks to those who have so promptly responded to the appeal for financial support at the commencement of the year. The annual subscriptions have been increased by £12. 12s., due to the generous way in which several of the affiliated associations have come forward to help the parent association by contributing towards the medals and certificates.

"The Royal Agricultural Society and similar institutions have also given valuable support to the association.

"Many new subscribers have joined, but their accession is neutralised by deaths and by withdrawals from the British to the County associations.

"Special donations to the amount of £70 have been received from City Companies, anonymous friends, and other generous donors. This has enabled the council to pay off most of its debts, which had been compulsorily neglected in favour of the various projects for bringing bee-keeping before the public. But much remains to be done. The balance of our indebtedness must be cleared off, funds must be obtained to enable the association to seize on the chances that may occur of advancing the position and increasing the usefulness of the association in the country. The subscription income of £95 is absurdly small.

"Donations cannot be relied upon; the annual subscribers must be increased, or we shall lose ground. The council would, therefore, urge every member to secure, at least, one new member; and would appeal to the prize winners, the manufacturers of appliances, and others whose interests are identical with those of the association, to follow the excellent example of the affiliated associations during the past year.

"*Educational Work.*—Examinations.—*Second Class Certificates.*—The annual second-class examination was held on Oct. 26 and 27. Ten candidates entered, of whom five were successful.

"*Third Class Certificates.*—Examinations for experts' certificates have been held during the year in the counties of Berks, Shropshire, Staffs, Cambs, and Lincs. Twelve candidates presented themselves, eight of whom passed successfully.

"It is a matter of regret that the holders of certificates granted prior to 1891 have not come forward in larger numbers for further examination in respect of foul brood. By a recent resolution, the council has decided that none but those who have passed such an examination shall be eligible for engagements under B.B.K.A. auspices. The council have had under consideration the recommendation of the Northern District Committee of 1893 relating to the formation of convenient areas with defined centres for the holding of third-class examinations, and the subject having been further discussed during the past year by that committee, and also by the Southern District Committee, the following groups of counties have been arranged:—

1. Notts, Derbyshire, and Leicester. 2. Lancashire and Cheshire. 3. Staffs, Shropshire, and Warwick. 4. Berks, Oxon, Bucks, and Hants. 5. Cambs, Beds, and Hunts. 6. Gloucester, Worcester, and Hereford. 7. Glamorgan and Carmarthen. 8. Dorset and Somerset. 9. Devon and Cornwall. 10. Lincoln, Rutland, and Northants. 11. Herts, Middlesex, and Essex. 12. Surrey, Sussex, and Kent. 13. At Darlington, for surrounding counties.

"The failure of a considerable proportion of the candidates offering themselves for examination is probably due to a lack of appreciation of the extent of knowledge and practice demanded by the association. There is a distinct need of grasping the fact, that the possession of a certificate of competency to manage bees and give advice to others is such an important matter as not to be lightly regarded. Plainly put, it is very noticeable that there is little evidence of serious preparation. The spread of foul brood throws upon the association a greater responsibility than heretofore, and it devolves upon the executive to see that none but those who show an intelligent acquaintance with the nature, manifestations, and treatment of the disease, shall receive credentials from the B.B.K.A.

"Among the important measures recently taken by the council, must be mentioned the decision to institute examinations for high-class lectureships in apiculture. The need for this step has arisen, first, from definite inquiries for men to teach teachers of bee-keeping; and, secondly, for the wider development of the science and art of apiculture under the auspices of bodies interested in technical education. Already a series of regulations for such examinations have been drawn up, and copies of them, together with a circular relating to the subject, are about to be sent to the Universities, to the authorities of agricultural and technical colleges, and to such other institutions as are likely to furnish candidates for the proposed lectureships."

Some observations follow as to the need for freeing the parent association from the obligation to provide judges and examiners without fee. The report proceeds:—

"*Foul Brood.*—The ravages of foul brood, and its constant advances in all directions, have been, and are at present, engaging the most anxious attention of the council. The demand for measures of repression is heard from all quarters, and it may be certainly concluded that the great majority of bee-keepers are prepared to submit to any practical regulations which may be devised for coping with the evil. Certain members of the council are now actively engaged in collecting statistics of facts bearing upon the question, and in formulating a scheme for dealing with the disease. The council hopes shortly to bring the whole subject under the consideration of the Board of Agriculture, from whom it is desirable to obtain the powers necessary for dealing drastically with the pest.

District support on the part of county associations will be a valuable help in securing attention from the Minister of Agriculture.

"*Honey Labels.*—During the year an important advance has been made by some of the affiliated associations, in adopting and giving practical application to the principle of using a distinctive registered label for honey offered for sale by members. This, it is confidently hoped, will produce highly beneficial results, in distinguishing British from imported honey, and in strengthening the hands of the associations, through whom alone the labels are supplied. The following counties have already adopted them:—Berkshire, Kent, Lancashire, and Cheshire. Notts and Glamorgan and others are now contemplating the same step.

"*Exhibitions.*—Following the well-established precedents of former Royal Agricultural Shows, the bee-keeping industry met with its customary recognition at the hands of the Royal Agricultural Society, at their Cambridge meeting, on June 25 and four following days. Under most favourable conditions of weather, and the attendance of upwards of 110,000 visitors, a great opportunity was provided for the association to attract attention to its exhibits and its objects. The appliances, of which a fair number were staged, were thoroughly representative of modern methods of bee-keeping."

Some particulars are next given of the work done in connection with the several exhibitions held during the year under the auspices of the association, along with other matters, and concludes as under:—

"*Events in* 1895.—Arrangements for holding exhibitions in the coming season have been entered into with the Royal Agricultural Society, whose show will be held at Darlington on June 24, and four following days. Negotiations with the Royal Counties Agricultural Society are in progress, for holding an exhibition at their Bournemouth meeting. The Bath and West of England and Southern Counties Association have renewed their donation for providing the bee-tent, and for lectures, at their show to be held at Taunton, commencing May 29. And as regards the Dairy Show, in October, the council hope to utilise the occasion which this show affords; but the condition of the finances of the British Bee Keepers' Association warns them that this can only be done through more liberal money-contributions, or by means of special funds raised for the purpose. Members may be again reminded that this is the sole opportunity the association has for holding a metropolitan exhibition.

"In concluding this report, the council have to regret that such important counties as Sussex, Herts, Dorset, and Devon, with several others, continue without any bee-keeping organisation, and would urge the making of resolute efforts, during the ensuing year, to remedy this condition of affairs. It might be suggested, in view of the difficulty of taking in hand the organisation of an entire county, that the first step is the formation of local associations at various centres: for instance, at Hastings, Brighton, Chichester, and Horsham, in Sussex; Hertford, and St. Albans, in Hertfordshire, &c. By such means, strong nuclei might be established, and the whole county ultimately be drawn together in one organisation.

"Lastly, the council would direct the attention of the members to the great aid which affiliated associations might render towards obtaining a bee-keeping census of their respective counties parish by parish. The Essex B.K.A. issued with their last annual report a convenient form for that purpose. We notice also that Kent is showing similar commendable efforts."

NOTTS. BEE-KEEPERS' ASSOCIATION.

The annual general meeting of this association was held in the People's Hall, Nottingham, on Saturday, March 9. Mr. J. L. Francklin, J.P., was announced to take the chair, but was unable to be present owing to an attack of influenza, and his place was taken by Councillor F. R. Mutch, M.D. (Sheriff of Nottingham). There was a goodly attendance, amongst those present being Messrs. Wood, A. G. Pugh, Riley, Merryweather, Poxon, Hayes, W. P. Meadows, Faulconbridge, Newton, Marriott, Mills, Turner, Radcliffe, Wootton, Warner, Maskery, Forbes, Baggaley, Burton, Burrows, and White. A number of letters were read from members unable to be present through indisposition. The annual report showed a slight decrease in membership, the totals being 207 at the commencement and 198 at the close of the year. There was, however, no loss in amount of subscriptions, and for the first time since the association commenced active work a balance remained in the hands of the treasurer. The thanks of the association were due to the President, Viscount St. Vincent, and the various horticultural societies for their liberal donations towards prize funds at the various shows held during the past year.

Referring to the honey labels issued to members by the association, it was stated that 4,400 had been sold, and they appeared to be much appreciated by both members and their customers. Foul brood was unfortunately on the increase, although it was not of so virulent a type as reported in some counties. Special measures were being considered by the British Bee-keepers' Association committee to prevent its spread, and it was earnestly hoped that members would take every possible precaution to prevent the spread of this pest. The report and balance-sheet were unanimously adopted. Viscount St. Vincent was unanimously re-elected president for the ensuing year. Mr. A. G. Pugh was re-elected hon. secretary. Mr. Scattergood was also reappointed auditor, and a committee was appointed. The proceedings were followed by a tea and conversazione, during which the usual drawing for prizes, presented by the president and various other donors, took place and resulted as follows:—"Wells" hive, won by Mr. G. E. Puttergill; "X L all" hive, Mrs. Hallam; do. do, Mr. W. Herrod;

honey ripener, Mr. Wright; rapid feeder, Mr. Annable; Beeston feeder, Mr. Wiggett; 100 sections, Mr. Breward; 100 sections, Mr. Measures; volume of *Record*, Mr. Fox; a "perfect smoker," Mr. Brooks; an improved super clearer, Mr. Draper.—*Communicated.*

DERBYSHIRE BEE-KEEPERS' ASSOCIATION.

The annual report of the Derbyshire Bee-keepers' Association is now issued, giving list of members, balance-sheet for 1894, and elected officers for 1895.

Among other matters, the report states that "the list of members has increased, likewise the subscriptions during the past year."

"The expenses of working have been heavy, but an improvement and reduction in certain branches will this year be made. Notwithstanding the expense, the society is perfectly sound, there being a cash balance, with other assets, amounting to over £25 to commence a new year's work."

"Foul brood calls for vigorous measures for checking the same. Qualified experts, able and willing to grapple with it, must be found, so that the thrifty bee-keeper may be protected from the careless and selfish."

Mr. W. T. Atkins has been re-appointed general secretary, with Mr. F. Walker as hon. assistant secretary.—*Communicated.*

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of February, 1895, was £930.—*From a return furnished by the Statistical Office, H.M. Customs.*

TO OUR READERS.

ASSISTING OUR CIRCULATION.

In view of the exceptional interest just now aroused on the subject of bees and bee-keeping among those outside the craft, a favourable opportunity presents itself to readers for introducing our weekly and monthly journals to the notice of persons likely to become bee-keepers. We will not only be grateful for such help, but will be very pleased to forward, post free, specimen copies of either the BEE JOURNAL or the *Record* to anyone of whose name and address our friends will furnish particulars on a post card.

CHAPMAN HONEY PLANT.

FREE SEEDS FOR BEE-KEEPERS.

In compliance with request of a well-known contributor to our pages, who has placed a small parcel of seed of the "Chapman honey plant" at our disposal, we will forward a few seeds gratis to any one sending a stamped addressed envelope to our office.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C." (see 1st page of advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE-KEEPING IN THE TROPICS.

MR. T. B. BLOW'S EXPERIENCE.

[2266.] You will remember about five months ago I told you that I was thinking of taking an entire rest and change during the winter months, having been much out of health for nearly a year past. I also said that if during my travels I saw anything of interest to bee-keepers I would communicate it. I decided to go to the northern part of South America and the West Indian Islands, and sailed direct to Demerara, viâ Madeira. I found that British Guiana does little or nothing in the way of bee-keeping commercially. There are two or three bee-keepers in Georgetown (the capital), and their bees are kept in rough box-hives or hives with American frames. There appears to be a moderate yield of honey, but owing to the great equality of the climate all the year round (the variation not amounting to more than 10 deg. of temperature), there is nothing in the shape of a harvest as we understand it. The bees I saw were all descendants of imported bees, and greatly resembled Carniolans. There is a wild bee here of the genus Apis (about half the size of *Apis mellifica*), stray swarms of which often enter into possession of an empty box in an apiary; they however yield but little honey, and are few in numbers compared with a colony of ordinary bees. After seeing some of the sugar factories here, for sugar is the greatest industry (though at present in a very bad way, owing to the great competition with German beet sugar, many of the estates being abandoned, although in a high state of cultivation, and some have £100,000 worth of machinery in the factories, yet they are quite unsaleable), I proceeded to see the gold mines which are becoming quite a great industry. They are, however, rather remote from civilisation, the nearest being between 200 and 300 miles up the Essequibo River and its tributaries — most of the ground they occupy being part of the territory so long in dispute between Great Britain and Venezuela.

The only way to reach them is by open boat rowed—or rather paddled—by about twenty coloured men, and as a great many rapids and falls are encountered, it takes about seven days to accomplish the journey. Each day when we halted the boat for the midday rest, I went into the bush as far as possible to see what bees I could. There were great numbers of the small stingless bees (*Trigona*) that stored their honey in little bladder-like receptacles; and at one place I noticed quite a number of bees, pollen laden, at a creek taking water. They much resembled Carniolans, but were fully one-third larger, and much more hairy. I was sorry that time did not allow me to trace them to their nest. This journey, botanically, was most interesting, for at the rapids, which are the only parts of the river that support any vegetation at all, I was able, during the time the boat was being drawn up, or portages made, to study the habits of about three species of *Podostomacæ*, of which very little is known. Altogether this journey was a great treat—the camping at night, our hammocks swung between the trees, and the numerous camp-fires with the men cooking their evening meal was something quite new to me.

Leaving the South American mainland, Trinidad was the next point of call, and though so beautifully written about by Charles Kingsley in "At Last," yet I somehow failed to appreciate it, and I was rather glad at the end of twelve days to make ready to depart. There are a few bees kept near the town, and quite a lot in Maraval, on the Mocha estate there. Their owner is Mr. Watkins, who hails from near Hereford, and I had a real good time with him. Mr. Hart, the Government Botanist, keeps a colony of the stingless bees (*Trigona*) near the door of his laboratory, and he told me that at dusk each evening the entrance to the stock was sealed up by the bees to prevent intruders entering during the night. Grenada, St. Vincent, St. Lucia, Martinique, Antigua, Nevis, St. Kitts, and Redonda were visited, but the last and most interesting was Montratse. I was here enabled to make an interesting calculation as to the quantity of beeswax produced in a given area. The island is quite a small one, 30,000 acres, with a population of 9,000. Bees are kept to some extent, but I imagine a quantity of the wax is got from the wild bees in the forests on the mountains. I had the good fortune to be provided with a letter of introduction to a gentleman who is practically the sole buyer of all the beeswax that is exported. The whole appears to be brought to him, with the exception, perhaps, of a little that the chemist gets for local use. The average quantity is about 1,120 lb. per annum, or about 1 lb. to every 27 acres. This island is in a better position than any I visited for the production of honey, owing to the vast plantations of limes, the property of Sturge's Montserrat Lime Juice Company. The honey is very superior, being much like the South European orange-blossom honey, and commands quite a high price locally—about 5d. per lb.—being put up in empty whisky bottles, which I compute hold about 2½ lb. The surplus honey finds a ready market in Trinidad. I here found my time was exhausted, and was therefore obliged to give up my intended visit to Cuba, Hayti, and Jamaica, which, of course, are the great bee-keeping islands, and am now writing this at Barbadoes, on my way home. —THOMAS B. BLOW, *s.s.* "*Atlantes*," *Barbados*, *February* 8, 1895.

CURING FOUL BROOD.

[2267.] The discussion that has been going on for some time past in B.B.J., makes me pen a line to say that foul brood is curable by care, time, and watchfulness. In spring of 1893 I suspected foul brood among my bees, but took no steps to remove it until the autumn of that year, my reason being that I was not quite satisfied that it was the dreaded disease that the bees had contracted; but all through the summer it went from bad to worse, and there was no mistaking the fact of foul brood being present. However, I sent up a piece of comb to editors of B.B.J. and got a reply through journal. It was so bad that I was advised to stamp it out by burning the lot! Out of fifteen stocks I had ten bad, and two slightly touched. Well, I set to work in earnest, and cured it right away. I took the bees from the ten bad hives and joined them into three lots; put the three lots into clean boxes, and fed with medicated syrup, according to instructions given with naphthol beta. I also used naphthaline in the boxes, four balls in each hive. Before the end of October I had them well fed up, more than needed for winter requirements. They came out in the spring of 1894 strong and to all appearances healthy, and have remained so ever since. With the two slightly-affected stocks I used naphthaline only, and although during spring and summer of 1894 I looked carefully for foul brood, I could not see a trace of it. Last autumn, when packing them down for winter, I again examined thoroughly for it, and still saw no foul brood there. I have kept naphthaline in my hives ever since, and although the bees have carried it repeatedly out during the breeding season, I just either put it back, or, if too greatly reduced in size, put in fresh pieces. I believe in keeping naphthaline in the hives if there is the least suspicion of foul brood.

It may be naturally asked what I did with hives, supers, quilts, frames, &c., used with diseased lots? Well, I pursued my own course, and found the bees none the worse for it in 1894. I cleansed everything about the apiary, whether used on diseased stocks or healthy one. My procedure in cleansing was

simply this : I set the boiler agoing and put one thing after another in it, and gave everything full twenty minutes of boiling water with a little carbolic acid or naphthaline added to the water, and if the dreaded spores of *bacillus alvei* could come through that process without damage, I would almost say it deserves to live.

If at any time I have the misfortune to go through the same trouble again, I would not start and feed right away, but put bees into a temporary box for at least two days. This would, I think, very much assist the curing process. And, while one should try and get rid of foul brood at any time of the year, I consider the autumn ought to be the time to put forth our best efforts to be rid of the pest; for by the time we get through the cleaning operations the quiet season is on, and the opportunity occurs of allowing the cleansed hives, frames, &c., to be exposed to the winter storm and frost, which will help the "boiler dip" for effectually disinfecting.

I hope your correspondent, Mr. Wm. Woodley, will not get annoyed and sulk in his tent at the difference that has sprung up between Mr. H. Brice and himself. As I read the several letters, they both wish to do their level best to give us readers of the B.J. a fuller knowledge of the whole matter.

Dr. Bartrum (2254, p. 26) asks for a leaflet to be circulated. I hope when that leaflet is printed that such as the Dr. will get a double supply of it, for foul brood was, without a doubt, brought into this district through a friend of mine buying a stock a few years ago of a certain dealer. The bees were Carniolans, and two months afterwards my friend dug a pit in the ground and flung the whole contents into it. Far and the best way, I consider, when you have only one affected. He buried everything in connection with it, and remains to this day free from the slightest trace of foul brood. — A. M'GREGOR, *Croftamie, N.B., March* 12, 1895.

WINTERING BEES.

[2268.] The problem how to winter successfully is a complex one, especially in high altitudes, and I trust the subject will receive some attention after the trying and abnormal winter we are just emerging from. My bees (see B.J., February 28, 2246, p. 88), on being dug up from their long sleep beneath the white blanket that covered them in for ten long weeks, were found to be all alive, with reserves of stores to keep them going for some time. Saturday last was a mild and sunny day, so I removed shade boards and allowed them to have a cleansing flight, although several feet of snow lay all around. The welcome sunshine roused them up effectually, and in a few minutes they were out in tens of thousands. I feared dysentery if they were forcibly confined longer, and signs of the beginning of it were not wanting. Further development of the pest is, I trust, checked. I knew it was a choice of evils letting them out, as many were likely to find a snowy grave, and so it proved, for again and again

> One more unfortunate
> Weary of breath,
> Rashly importunate,
> Went to her death.

The number, however, was small compared to the loss I would have sustained if dysentery set in in earnest. It has been established conclusively that bees will survive a great deal of cold when warmly covered in by a mantle of snow. Why for a fortnight with us here it never rose above zero, and for a great part of that time it registered 49 deg. of frost I trust of Mr. McNally's alternatives, "fortunately or unfortunately," that he will find it was fortunate for him that his hives were covered in with drift. He might let us know what his experience is, and compare results with those exposed. Mr. Stokes, too, with his 100 hives might let us know how he has got on in this Arctic winter. Hundreds of Scotch bee-keepers would thank them for an experience which must be quite unique. A severer test than my own case may be instanced. I assisted a neighbouring bee-keeper to dig his four hives from under ten feet of snow where they lay for over eleven weeks. All were alive! One even had its top partly off owing to a young tree having been crushed over it by the weight of snow, and so tilting up the roof piece. Quilts, too, were loosely fitted, and yet the bees survived it all at an elevation of nearly 1,500 ft. This one, owing to the disturbance probably, showed marked signs of dysentery, and will require careful looking after. As a contrast to these instances, I may record the experience of one of the best and most successful bee men in the north. He has lost about one-third of his colonies. They were literally frozen to death in the midst of plenty. The bees were in double-walled hives, warmly wrapped, and with chaff cushions overhead. They were strong colonies when winter packed. They were *not*, however, covered with snow when the keenest frost prevailed. This apiarist is at a much lower altitude, and in a much more favourable locality, yet his bees have gone! Others have survived under the most unfavourable surroundings. Won't some others give us their experience of the white blanket? —D. M. M., *Banffshire, March* 18, 1895.

DRONES FLYING IN NOVEMBER.

EFFECT OF FROST ON BEES.

[2269.] In November last I wrote (2190, p. 447) informing you that drones were flying that month from a hive of mine, and also from one belonging to my son. As then stated, I felt sure the stocks were all right, though two experts thought otherwise. I this morning examined the two hives referred to, and found

both in splendid condition, both queens breeding well.

I notice Mr. J. J. Ker (2253, page 96) describes the effect of severe frost on his bees. Will he kindly inform us what kind of sugar his bees were fed on, and if they had winter passages provided over tops of frames? With plenty of sealed food made from pure cane sugar, free passage above frames, and a liberal supply of quilts, I believe bees will stand the most severe winter England has ever known. I fancy his bees were frozen together after death. My bees are in grand condition; never came through a winter better than this last one.—J. PEARMAN, *Derby, March* 13.

A FRIENDLY WARNING.

[2270.] I enclose a letter received from a gentleman about to start bee-keeping a few miles from me, I send it on as a sample of the straightforward honest way which I have found to predominate among the bee-keepers in my county. Some there may be who have acted otherwise, but although acquainted with many, I have yet to find them.

Dear Sir,—May I take the liberty of addressing you without a formal introduction. I am a bee-keeper, and have recently been appointed stationmaster at ——. I own fifteen stocks of bees; four at ——, one within two mile of you, two at ——, and eight at ——.

It is principally with reference to these last named eight I write now. Last September, I spent my holiday among the bees, looking into or going over some fifty hives. I had finished my own, and the last day was at ——, about five miles over the hill, about a mile from my stocks, and the very last hive examined, I found seriously affected with foul brood. My time was up, and I could not go further with the case then, and have had no chance since. I remember here and there a capped cell in my own hives, near the locality last mentioned ('92, '93, and '94 combs, nearly all), and although I examined one or two at the time, it was with a satisfied feeling that there was no foul brood in the district, but subsequently thinking over these same few cells, I do not feel so satisfied. As far as I have since been able to see they are healthy, and I believe they are so now.

In my previous position I was able to get away better than I shall now be, so I want to shift my —— hives to ——, within two miles of your own apiary. I think of letting them remain until, say, end of April, and then examine thoroughly, and if all are healthy, shift them. Living within bee-flight of you I think it only right to let you know what I propose to do.

What I find, and what I do later on I will let you know.—Yours truly, ——.

For obvious reasons, I omit all names but since receiving above letter I have had the pleasure of seeing my correspondent as to foul brood, and he is determined to have none of it, and decides to stamp it out. I have, therefore, promised to assist him. He is fully alive to the necessity of the above course, and is, in my opinion, one of those bee-keepers we should appreciate if we desire to eradicate the bee-pest.

Sussex is to try and have a bee-keepers' association. What about my own county and its moribund association? Why should it remain inert when we have such men as my correspondent with hives in many parts of the county? Some score of others I know of equally energetic and straightforward, who are still unattached. I have asked these questions before, but am still waiting for a satisfactory reply.

Surrey may not be able to average 100 lb. per hive all round, but there are many parishes capable of yielding nearly double this quantity under favourable circumstances.—HENRY W. BRICE, *Thornton Heath, Surrey.*

THE BERKSHIRE BEE VAN.

[2271.] Arrangements are being made for something like three months' work with this van during the coming season. One month in Berkshire and upwards of two months in Surrey have already been arranged, under the auspices of the respective County Councils.

In order to make the tour as comprehensive as possible, a collection of appliances is carried by the van for the purposes of illustrating the lectures, and the hon. secretary will be glad to hear from manufacturers who would like to send samples of their specialities to be included in the collection. It will be impossible to take many hives or the larger appliances owing to want of room, but if makers will forward a list of what they would be willing to send it shall have careful attention.—Address, The HON. SECRETARY, Berks B.K.A., 17, *Market-place, Reading.*

MEAD MAKING.

[2272.] I was glad to note in your last week's issue (page 83) a fresh recipe for making mead (if the term "fresh" can rightly be applied to anything 190 years old), as I hoped it would prove more easy of comprehension than others I had come across in the past—uncertainty as to the instructions in which has so far deterred me from attempting to manufacture this delicious beverage.

On the whole, the prescription seems a very simple one, but I should be glad if you or your correspondent would enlighten me on two or three points, and probably the information would be useful to other readers who, like myself, are ignorant of the technicalities of liquor manufacture. First, then, I am

puzzled to find nothing is said about fermenting, which I have always supposed to be a necessary part of the process.

Second, the sentence—"Tun it up, clay it down, and let it stand till it is fine, and old enough to drink"—is unintelligible to me. The dictionaries give "Tun (verb), to put in a cask," which is simple enough. "To clay," according to one authority, is "To cover with clay," while another gives it as "To purify with clay." Assuming this last meaning to be the one intended, some instructions as to the method of procedure would be advantageous, and I should also like to know if the cask should be at once bunged up. If any fermentation is to take place, I suppose it would have to remain open for a time at all events, and in that case it becomes necessary to know how to produce the fermentation, and when to close the cask.

In other recipes I find such directions as—"Put in a sufficient quantity of yeast," "Ferment with yeast for a sufficient time," &c., which are doubtless quite sufficient for any one who knows all about it, but very little help to those who want to learn.

Third. It is stated that "it will keep as long as you please." Would this be in the cask or after being bottled?

I must apologise for troubling you with a letter on this subject. My excuse is the desirability of the many uses of honey being as widely known as possible, and the probability that others like myself may be only waiting for clearer instructions to try more of them.

This winter must have been a very trying one for bees even here, though we have probably suffered less than in any other part of England, ten degrees of frost having been the lowest record. I took the first opportunity of a peep at my five hives and found the stocks all lively. I gave each a cake of soft candy to ensure their having plenty until the weather is more favourable, and I can give them a thorough examination.

I have read with interest the articles and correspondence on proposed foul brood legislation, and hope the desired powers will be obtained. I have been a sufferer myself, and last autumn destroyed three stocks, one of which was badly, and the two others slightly, affected, in the hope of stamping out the disease; but this, of course, gives me no security as long as my neighbours are keeping diseased stocks, and allowing empty infected hives to stand in their gardens as a decoy for swarms, as I know has been done in the past in spite of all protests.—W. Wilkinson Cox, *Kinbrue, Chelston, Torquay, March* 7.

[1. Fermentation is, of course, necessary, and the reason no mention of it appears in the recipe quoted, lies in the fact that two centuries ago honey was got from the combs by cutting the latter up and subjecting them to pressure or squeezing, according to the usual method of the time. In this process more or less pollen got mixed with the honey and a very small quantity of pollen suffices to bring about fermentation. With the use of extractors and modern methods of preventing the admixture of honey and pollen, a small quantity of the latter would need to be added when making mead. 2. "Tun it up, and clay it down," simply means to put the liquor into a cask, turn its bung-hole uppermost and cover the hole with clay, so that if the subsequent fermentation caused the clay to be blown off, no further harm would follow. 3. The cask is meant, we should say; but if fermentation has entirely subsided, and bursting of bottles bottles prevented in consequence, it would keep as well in bottles as in cask.—Eds.]

A WORD IN SEASON.

[2273.] Couldn't Mr. W. Woodley stick to his "Notes by the Way," which are the admiration of all true bee-keepers; and Mr. Brice give us some more of his excellent articles on "Queen Rearing," which are more interesting and fascinating than a novel—and both agree to let science alone; leaving it to scientific men who really understand it? Tilting at windmills is really an unprofitable occupation. The other subjects are full of general interest and profit.—Scot, *Banff.*

Queries and Replies.

[1241.] *Portable Hive for Lecturing Purposes.*—Does any manufacturer make a really portable hive, *i.e.*, one that can be taken to pieces and screwed together again in the lecture room? In visiting country villages it is not easy to carry an ordinary hive about.—F. Boyes, *Beverley.*

Reply.—The demand for hives such as that referred to being so small, it may be safely said that no manufacturer makes them unless specially ordered.

[1242.]—*Stimulating Early Comb Building.*—1. On looking at my hives the other day, I found one had only enough bees to cover two combs, and these were close to the entrance end of the hive. At the back end were several frames filled with syrup fed to them about the middle of last September, but hardly any of it was capped. As far as I could see, it appeared to be all right, the bees are from two skeps I drove and r[illegible]2190, the end of last season. What is the r[illegible]lying there being so few bees? Is it that t[illegible]ted, I queenless. 2. Is it possible, by slow[illegible]h two feeding at this time of year, to make [illegible]orning draw out foundation so as to have [illegible]found surplus combs when the honey-flo[illegible]

mences? 3. How would an observatory hive, made just like an ordinary one, but with two sides and one end of glass, answer, if there were wooden shutters affixed, so as to keep them in darkness? 4. When extracting, say at a week or fortnight's interval, can one drain off the extracted honey into the same ripener at each extraction? I mean, is there any objection to mixing honey when extracted at different times? 5. What is the best time to commence stimulative feeding or uncapping honey to stimulate brood-rearing? 6. Is the sample of honey sent a good one? It is last year's. I only got 140 lb. last year from six hives, most of it extracted. 7. That is a very bad average, isn't it?—C. D. G., *Cambs, March* 11.

REPLY.—1. Rapid diminution of bees in driven stocks usually makes one suspect loss of queen, but does not point conclusively that way. 2. Very strong stocks will build out comb foundation at this season, but only by inserting the frames, so fitted, between combs containing brood. Moreover, as the cells are drawn out, they will largely be filled with eggs, and so rendered useless for the purpose proposed. 3. Hives having glass sides for observation purposes are common enough. Nor do the bees in them require keeping in darkness. 4. So long as the honey extracted is of fairly uniform quality there can be no objection to mixing it as proposed. 5. About six weeks prior to commencement of the main honey-flow. 6. Yes. 7. Not "bad," but fair.

[1243.] *Stock found Dead.*—I have five hives which I packed for wintering in October last, allowing each stock some candy, in addition to the sealed stores left in the hives. Noticing that bees were flying freely from four hives, but not from the fifth—which was the parent hive, and the strongest of all in the autumn—I recently made an examination of the latter, only to find the bees all dead—clear case of starvation. The upper portions of the combs in four frames were entirely filled with dead bees, and the spaces between the combs were also piled to the top with them. There was no sealed honey in these combs, but in the two frames at the back next the division-board there was a plentiful supply, but no bees. I wintered the stock in eight frames, but omitted to make passage-holes, and also to put the sealed stores in the middle. Would these omissions account for the starvation to which I fear these wholesale deaths must be attributed? I do not think the severe cold is accountable for the mortality, as the hive was well packed, and had such a large number of bees in it. I [illegible] a piece of comb, with a few bees, as amine t[illegible]nd shall be obliged (1) with your them. [illegible]as to cause of death. (2) Should I it only r[illegible]d bees out of comb before putting it to do. [illegible]e again, or leave that to be done by What bees? The piece I send is from the let you k frame. — SALOPIAN, *Shrewsbury*, For o' 12.

REPLY.—1. A palpable case of death by starvation with food in the hive. It is not at all certain that the making of "passage ways" would have saved the bees in such a winter as we have just passed through. Where hives have the frames hung parallel to entrance, all combs containing little food should be placed in the rear when packing for winter. 2. If you can remove the dead bees from the cells, it will save enormous labour to the next occupants of the combs.

Echoes from the Hives.

Beemount, Stoke Prior, Worcestershire, March 9.—Happy to say my fifteen stocks have so far wintered well. The driven bees I put into two empty skeps last September, and to which I gave 30 lb. of syrup per stock, have wintered exceedingly well in an attic. I was astonished last week to find how heavy they were. One of these lots I have now removed to the garden, but the other I intend keeping where it is. I have taken out a pane of glass in the attic window, and in its place put a piece of very stout cardboard, in which is a hole sufficiently large to take a glass tube of 2¾ in. diameter. The other end of tube is fixed to the entrance of skep, and kept in position by the aid of cement. I will relate in a later echo what results I get from this particular hive. One of my other stocks (driven bees) I commenced stimulating with syrup about three weeks ago, hoping to get the bees in good trim for the gooseberry blossoms. Last Wednesday I found two drone larvæ on the alighting board, and upon examining the frames the following day found a number of drone eggs, drone larvæ and sealed drone brood in worker cells. I am afraid this stock must have either an unfertilized queen or a fertile worker. I failed to find the queen on Thursday, but will look again when the weather is propitious. When removing an empty case last Tuesday, which was put on full of candy a fortnight ago, I was surprised to find a large piece of newly-built comb in it. A friend of mine here relates a similar experience. Early for comb-building, is it not? —PERCY LEIGH, *Hon. District Sec. W.B.K.A.*

[Early comb-building in candy-boxes by bees, after removal of contents, is not an infrequent occurrence.—EDS.]

Honey Cott, Weston Leamington, March 16.—The bees have passed through a very trying winter season, during which they have had to endure almost zero weather. What a lesson has been learnt from it! Teaching us to see that stocks are well provided with food. I have lost four stocks, partly through my own fault, because of not going to the trouble of putting strips of wood on top of frames for passage to the food. Yesterday being a mild

day, about 55 deg. in the shade, I had a pleasant afternoon's job changing floor boards, and otherwise looking to see how the bees were off for food. Some of my hives have fixed floor boards, but most have loose ones, which I like much better; they can be so much easier changed and cleaned. Again to-day the bees are on the "go" for water, &c., but I have not seen any natural pollen brought in yet; indeed, vegetation has scarcely begun to move yet, and the ice has not entirely disappeared. Snowdrops and crocuses are just showing, and if this mild weather continues I shall give pea flour next week. Previous to friend Woodley mentioning the painter's burning lamp, on p. 106, I had used it this week just for testing burning in the corners of hives, so I tried it to see how it would act, seeing what was said at the conversazione about getting anything to burn in the angles, &c., and I can say that I should think nothing could withstand its heat, as if it is not moved continuously it would soon burn the wood, and the flame comes out with such a roar and force that I think it would be very efficacious, in my opinion better than boiling or steaming, &c. By all means let us have this foul-brood pest settled if we can, as we do not want it here, having heard enough of friend Martin having it, and many others round about Wycombe.—JOHN WALTON.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. LIDGEY (Camborne).—1. Dysentery in bees is shown by the marks of involuntary discharge of the fæces on the surface of the combs and hive sides. We should judge the "ruddy brown contents of the cells" to be pollen, but cannot say for certain without seeing a sample. 2. From the activity of the bees at this season, and pollen being carried in, it may be safely assumed the queen is all right. 3. Crystallised pure cane sugar is the proper kind for bee food. 4. The bees will work out the combs in due time, but the probability is there will be a preponderance of drone comb.

W. S. TRAPP (Marsham).—1. There is no trace of disease in comb sent, the bees having evidently died of cold and hunger. From the fact of breeding having been started in the comb on which the bees have died, it would seem as if they had clung to the brood instead of moving to other combs where food was. The extreme cold has without doubt also helped to bring about the mishap. 2. You have done quite right in dealing with the other "Wells" hive.

J. HELSBY (Watford).—Comb received is affected with foul brood. After the experience you have had in buying stocks, we should advise the purchase of a healthy natural swarm, and need hardly say the frame-hive you have will require very thorough disinfection before using again.

L. EDWARDS (Charlton).—There is foul brood in comb received, and, in consequence, those left in the defunct hive will be unfit for use again. They should be burnt, and the hive disinfected before using again.

ROBT. THOMAS (Cowbridge).—Different bee-keepers have their preferences, with which we need not interfere, but the "Smoker" is far more generally used as intimidant for bees than any other.

E. E. SCHOFIELD (Newton Abbot).—*Managing "Wells" Hives.*—We strongly advise your investing 6½d. in the purchase of Mr. Wells' pamphlet on his hive and system, and take your instructions as the matter inquired of direct from the author.

W. A. W. (Guildford).—Bees are workers of the ordinary or common variety. See reply to "Joseph King" for address of hon. secretary Surrey B.K.A.

JOHN BAXTER (Blairgowrie).—The honey sent is an admixture of heather and flower honey. We should fancy the latter has not been quite ripe judging by the rather thin condition of the sample. The quality cannot be called more than fairly good.

H. WILCOX (Talywain).—*Mead-Making.*—Refer to footnote to 2272, page 118.

JOSEPH KING (Godalming).—Captain Campbell, Oakside, Box Grove-road, Guildford, is hon. sec. of the Surrey B.K. Association.

W. WILLIAMS (St. Briavels).—*Mr. Wells' Pamphlet.*—The price is 6½d., and for other particulars please refer to advertisements.

BUSY BEE (Dumfriesshire).—*Granulated Honey in Hives.*—If all the honey in combs is granulated, a supply of syrup will be needed to keep the bees going, though it is more than probable there is some honey still available, otherwise you would find granules of the solid honey lying thickly scattered on the floor board.

ISHMAEL GIRLING (Leiston).—Comb contains nothing worse than mildewed pollen.

W. BURROWS (Eskmeals).—*Wells Dummy.*—1. According to Mr. Wells' description, as given in B.J. for May 19, 1892, p. 193, the wood used is best yellow pine, ⅛ in. thick, with holes nearly ½ in. diameter, and ½ in. apart. 2. Where surplus chambers are in two parts, the entrance connecting them should be about 5 or 6 in. long by ⅜ in. high. 3. We should put the two stocks in "Wells" hive as soon as weather becomes warm if they now stand in close proximity to each other. 4. Yes, thyme is a good honey plant.

J. HAMSHAR (Hilgay).—The surplus combs, beyond ten good ones, should be removed on the first warm day.

W. B. (St. Alban's).—Bad case of foul brood.

Editorial, Notices, &c.

THE UTAH FOUL BROOD LAW.

ENACTED 1891-2.

1. It shall be the duty of the county-court of each county to appoint, from among bee-keepers of the county, one or more suitable persons as inspectors of bees.

2. These inspectors shall be appointed biennially, viz., on the first Monday in March for each alternate year, or at the first regular sitting of the court thereafter, and shall perform the duties of bee-inspectors for two years, and until their successors are appointed and qualified. Said inspectors shall qualify by taking and subscribing an official oath, and giving bonds with sureties to be approved by their respective county-courts, and said bonds to be filed with the clerks of said courts.

3. In determining the fitness of a person to fill the position of inspector, the court may be guided by the wishes of the majority of the bee-keepers owning or keeping bees in their respective counties, and it shall be deemed lawful for any inspector, if he so desires, to invite one or more persons to assist him in prosecuting his inspections; provided that no charge is made for this voluntary service.

4. It shall be the duty of the inspector to visit all the hives of bees in his county or district at least once a year, and at any time upon the complaint of any bee-owner that the disease known as "foul brood" exists among the bees of any person, whether owner or custodian. It shall be the duty of the inspector to whom the complaint is made, to immediately inspect the bees said to be thus infected; and if such inspector finds that "foul brood" does exist among such bees, said inspector shall immediately take charge and control of them and give them proper treatment for the cure of the disease; or he may destroy [such portions of the bees and brood and of the hives and contents as may be necessary.

Provided, in case the owner has any doubt about his bees being affected, and objects to their being destroyed, as in this act provided, then such fact shall be determined by arbitration, the said inspector choosing one arbitrator, the owner of such bees another, and they two a third, from among the bee-keepers of said county, who shall immediately inspect such bees, and determine whether or not the bees so inspected are diseased.

5. If any person shall in any way obstruct by threats or violence, or in any other manner, to prohibit or prevent a duly-appointed bee-inspector from inspecting, taking charge of, treating or destroying bees, as provided in this act, on conviction thereof before the nearest justice of the peace of the precinct in which said bees are kept, the person so doing shall be deemed guilty of a misdemeanour and shall be fined in any sum not less than 5 dols. nor more than 25 dols. for the first offence, and for each additional offence be liable to a fine not to exceed 50 dols.

6. To provide for the prosecution of the duties of bee-inspector under this act, the county-courts are hereby authorised to and shall appropriate the sum of three dollars per day for the time that the inspector is actually employed in the performance of his duties, out of the revenue created by a special tax as hereinafter provided; provided that it shall be unlawful for such inspector to receive gifts or compensation from the owner of bees or from any bee association.

7. It shall be the duty each year of the assessor of each county to levy a special tax, not exceeding five cents, on every colony of bees in the county, to be known as a bee-tax. Said tax shall be collected by the collector of each county, and paid to the county treasurer in the manner provided by law for the collection and payment of other county taxes, and said fund shall constitute the "bee-fund," to be used for the payment of the bee-inspector.

FREE SEEDS OF HONEY PLANTS.

Notwithstanding the fact that we have been generously furnished with a second supply of seed of the above by the same donor, and our having doled the last packet out in very small quantities, we are still unable to "fill orders," so numerous have they been. Does any other reader of the B.J. possess a surplus supply of seed? and, if so, will he kindly send it on to us? We do not care to return stamped envelopes empty.

Again, we have been (unthinkingly, no doubt) asked by many applicants to "enclose cultural directions, please." As we cannot undertake the labour involved in doing this privately, we give below some particulars regarding the plant, and how to grow it. The "Chapman Honey-Plant" (Echinops sphœrocephalus) belongs to the thistle family, and grows from 2 to 5 ft. in height (in rich soil it sometimes reaches 6 or 8 ft.). Each stalk is surmounted by a cluster of ball-shaped heads of bloom, which are covered by small star-shaped white flowers with blue anthers surrounding the pistil. It is a biennial, easily grown and perfectly hardy, but if sown early will bloom the same year.

Mr. Chapman, the American bee-keeper after whom it is named, says: "two acres of the plant started my 175 colonies storing honey." It is also recorded in "Roots's A B C" that over 2,000 bees have visited a single flower in one day.

NOTTS BEE-KEEPERS' ASSOCIATION.

Under the auspices of the Notts Bee-keepers' Association, aided by the Notts County Council, a lecture on "Bee-keeping" was given in the Board School, Keyworth, on the 14th

inst., by Mr. Arthur G. Pugh, hon. secretary of the association, and certified expert of the B.B.K.A. There were nearly 100 persons present, and the chair was occupied by the Rev. F. Robinson, of Keyworth. The lecturer dealt with the anatomical and physiological structure of the bee, the various classes of bees, the different kinds of hives and apiaries, and the various methods of managing bees. All the subjects were fully illustrated by lantern slides, many of which were actual photographs of one of the editors of the BEE JOURNAL manipulating bees in the processes of swarming, driving, and changing of hives. The lecture was listened to with great attention, and Mr. Pugh seemed to have a thorough knowledge of the subject he had undertaken to explain. Alluding to the profits from bee-keeping, the lecturer stated that during 1894 no less than £33,472 worth of foreign honey was imported into this country, thus showing that there is a demand for the product.

Referring to the above, the hon. secretary writes :—I enclose "cutting" *re* last lecture of present season. Six have been given, as follows :—At Beeston and Beauvale, by Mr. P. Scattergood, jun. ; Tuxford and Radcliffe-on-Trent, by Mr. H. J. Raven ; Oxton and Keyworth, by Mr. A. G. Pugh. These lectures have all been much appreciated ; and as during last summer four horticultural shows were also visited with bee tent, and lectures in bee-keeping given thereat, the sum of £20, granted by County Council, has been made to do good service. Had a larger grant been obtained, several applications that had to be refused could have been acceded to.—A. G. PUGH.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES AND THEIR TEMPER.

[2274.] It is very easy when manipulating a hive, and for some unknown reason or other the bees are unusually savage, to attribute their bad temper to something either done or left undone at that particular time, whilst we seek, and seek in vain, for what it is. Every bee-keeper of any experience must own that he has been many a time puzzled by such unaccountable outbursts, and as there is a cause for everything, even though we cannot find it out, it seems wise to ponder over the point until we get at some probable solution of the problem. Excessive manipulation may perhaps cause bad temper in some particular hive ; so may peculiar electrical conditions of the atmosphere, but these are only symptoms, or, rather, these only produce symptoms of constitutional peculiarity, the causes of which lie deep in the nervous system of the bee, and this extreme susceptibility to irritation must be inherited from those who go before it, to be handed down also to those who follow on and carry on the race.

I notice with regret that the ordinary British bee-keeper is inclined to sneeringly give the cold shoulder to what is called the science and theory of our art, and we have him to deal with, all too often, when lecturing, particularly at shows. I could number with the fingers of both hands the (in my opinion) enlightened bee-keepers in England of to-day, the rest may be graded as we grade honey, and classed as eager enthusiasts with their accompanying fads (and all praise to them, for no progress in any hobby, useful, artistic, and scientific can be made without them), or they may be classed as past masters in the craft, men of mark who have had their day, and now rest on their laurels. One had only to attend an annual meeting of the B.B.K.A. to meet many such, and the remembrance of my association with these is as a pleasant green spot to the mental eye.

Green spots in mem'ry's waste of years.

I take no count of the persistent skeppist, nor of the bee-keeper whose perpetual "push" has put him into a position of office, so that at last he is seen of men, they are those who are passed on the wayside by those who would be acquainted with the true knowledge of the bee and how to keep it.

But to return. The question of heredity amongst bees has been dealt with more particularly by our continental neighbours, who are far and away ahead of us in most science. John Bull reads their books and lumbers along heavily behind, as usual, and it has been a source of great pleasure to the gentleman who first started the new theory that abroad, at least, the question was considered of much importance. The summary of it may be shortly given thus :—Queen and drone do not hand to their progeny something they give no evidence of possessing ; workers hand down qualities and instincts they do possess, to the brood, by means of brood food. Therefore we should do as much, and act as "Draconically," with regard to the extirpation of bad-tempered bees as we do in the matter of foul brood. You must remember that the laying queen owes its position as a mother to

the food fed to it in its babyhood out of the system of the worker bee; let that food be stinted in quantity at a certain time, and the laying mother of the hive had been a barren worker. One might as well change the hive as change the queen when seeking to eliminate bad temper from bees. The matter has been argued out and thrashed out before. So, to those who disagree with the theory, I have only to recommend a trial with the practice of it. Try, if you have an irascible strain, to cure it by re-queening, and fail, as scores have failed before you; but it has yet to be recorded that the destruction of the living bad-tempered workers, with the division of the combs amongst the other hives, has not in every case succeeded. I know it is hard to get a theoretical truth down a practical (?) gorge, it rises at it. The British farmer in matters of artificial manure and scientific items generally, the practical poultry keeper, the rule-of-thumb gardener, and (worst of all) the "common" (or garden) bee-keeper, are all so filled with their kind of knowledge that any information sought to be conveyed by those who profess some scientific acquaintance with their art is given a cool reception, if it be not indeed actually derided. They will, however, without acknowledging what they get from science, use items of information as though they were the results of their own experience. The question of temper amongst bees should, I think, be always approached from the standpoint that mental characteristics are handed on by the pap-like food secreted by nurse bees who inherited, amongst other things, their temper from their foster-mothers, and so on backwards. Looking forward then to the development of a strain of bees with even tempers we should, when he have accidentally (by excessive or faulty manipulation) roused or caused a really vicious disposition which up to that time had been latent, take vigorous effective measures to prevent such vice being handed on to the young brood, the future tenants of the house. This can only be done by removing the frames of brood, &c., to other hives, until night time, when the living vicious workers should be destroyed. The queen could be caged and an artificial swarm or nucleus could be made with her in the old hive the next day.

I trust this "theory" will not be attacked on the ground of cruelty. If so, I will add now that extirpation, relentless stamping out (pace Nottingham!) is at last becoming the order of the day with regard to F. B., and so it should be with any badness we wish to eliminate. It is cheapest, best, and most humane in the long run.—R. A. H. Grimshaw, *Woodlands, Horsforth.*

EFFECTS OF FROST ON BEES.

[2275.] In response to Mr. J. Pearman's queries (2269, page 117) on my letter (2253, page 96), I have, I think, quite accounted for the disastrous loss of my stocks during the late severe frost. Last autumn, symptoms of foul brood showed themselves in many of my stocks, and it was a consideration whether I should immediately take the bull by the horns, or wait for the spring. I preferred the former course, and there and then set about removing all old combs and honey, and feeding up well with medicated syrup. The stocks were not strong, but I built those up, with the addition of driven bees and re-queened, and finally, about the end of November, closed for the winter. The sugar I used is crushed lump from the C.S.S.A., and medicated with naphthol beta. I also provided the usual winter passages over the frames, and on these placed the quilt, and then a cushion 4 in. thick, with a hole in the centre for the feeding-bottle. Dysentery, I find, has been the cause of all this mischief. When cleaning out the defunct stocks last week I found the combs, frames, and floor-boards spotted in all directions with the dark brown muddy discharge. There is no doubt that the late autumn feeding and long confinement during the winter (at one time for nearly five weeks) had brought this about. However, with me it has been the survival of the fittest, and perhaps for many reasons it is best that it has been so.

Hertfordshire, then, is to be without its association, as no one at present seems willing to come forward. I think that a want of energy will account for such fine honey-producing counties as Herts, Sussex, and others being without the assistance of a properly organised body of intelligent bee-keepers.—John J. Ker.

BEE-KEEPING MEMS.

WET QUILTS.—DO BEES PAY?—FOREIGN HONEY.

[2276.] I see that your correspondent 2245 (p. 87) complains of wet quilts. I, too, after the heavy autumn rains, found very many of my hives with wet and mouldy quilts. These I replaced, fortunately before the severe frosts came on. The roofs apparently were waterproof—no cracks being visible. As some of my roofs are covered with zinc, and as the quilts under these were perfectly dry, I concluded that the wooden roofs somehow leaked, but where or how I cannot even now make out. Another correspondent (2240) asks on p. 84: "Do bees pay?" Now, as to "paying," I myself consider that that depends on three things: First, a favourable locality; secondly not too many stocks; thirdly, good management—though perhaps I ought to put the last first. I know when I kept twenty-five to thirty stocks, my average take was 50 lb. per hive, whereas when I increased my apiary from eighty to ninety stocks my yield has been 12 to 18 lb. per hive, although I expended proportionately much more time and trouble with the latter. This is partly

attributable no doubt to the drought and its after effects on clovers, &c. Still, I think it is possible to be overstocked, because I believe that bees do not forage so far as many people imagine. Anyway, there is a village about two miles distant from me full of lime trees, and during the period that these limes are in flower—generally about the third week in July—I notice my bees are in a quiescent state, whereas the bees of that village are having a real good time of it. My idea of a bee paradise is:—plenty of orchards, clover, sainfoin, and lime trees on one side of the apiary, and a moor covered with heather on the other side. The apiarist has thus about three strings to his bow, and *then* bees *do* pay.

Referring to foreign honey, I tasted a sample of Sandwich Island honey, and it reminds me very much of toffee, or Demerara sugar and water. I think people who know the flavour of English honey will not be tempted with the foreign article, though I expect a market for it will be found amongst schools and with chemists, who are perhaps careless as to flavour as long as the article is honey. Frost.—The thermometer here stood at 8 deg. on the house wall, or equal to about zero on the grass for many mornings. My bees have been flying on sunny days, but I have found three stocks dead in spite of abundance of stores (I left all my hives with 30 lb. each) and Hill's devices, dummy boards, and six thicknesses of carpet.—APIARIST, *Oxford*, *March* 11, 1895.

WINTERING BEES.

[2277.] In reply to D. M. M. (2268 p. 116) I beg to say that my bees have come through the winter without loss. I may state that this has been my experience for the past thirteen years, not having lost a stock of bees during winter. Yet my bees are in a colder and more exposed situation than any apiary I know of in the north of Scotland.

In my experience extreme frost will not kill bees, providing they have sufficient food and warm coverings. I should perhaps blush to tell that I never scrape or clear the bits of comb from the tops of the frames, but leave it for winter passages. I have always looked upon snow as my best friend in wintering, having frequently had hives buried for two and three months at a stretch. These have always come out the strongest and with the least consumption of food, and were the first ready for the supers.

Until a week ago I had over thirty hives completely buried since Christmas. A few hives on the highest ground had little or no snow about them; the latter showed more dead bees, and much larger consumption of stores, but were otherwise fairly strong.

Instead of clearing the snow from the hives, as mentioned by "D. M. M.," I continue shovelling it up to the entrances, as long as there is any to be got. I have never had but one case of dysentery, and that was caused by a leaky roof and damp cushions, not by confinement to the hives by snow.

I can't say wherein my success in wintering lies. I have bees of all races, so it is not in the hardiness of the bees. My hives are home-made, and of the simplest form, but I use a loose outer case, which perhaps plays an important part in my success.

A hive of the "W.B.C." pattern, plenty of food, a cake of candy on top of frames (which forms excellent winter passages, and gives the bees a chance to reach their food from the cluster), with warm coverings and a tight roof, would, I may venture to assert, safely winter bees in any part of Scotland during our coldest winters.—W. STOKES, *Carr Bridge, Inverness-shire*, *March* 22, 1895.

P.S.—A few years ago one of our Editors (Mr. W. B. C.) requested me to test a few hives not packed between the body and outer case. I found that they wintered equally as well as those packed, but with me I require warm packing in spring, so I made straw mats to fit loosely into the space left for packing. This gives the necessary warmth, and the free course of air advocated by "W. B. C." Perhaps this may explain the freedom my bees have from dysentery. Mr. Woodley's criticism is invited.—W. S.

THE BRITISH BEE-KEEPERS' ASSOCIATION.

ANNUAL REPORT.

[2278.] The abstract of the annual report of the B.B.K.A., as printed in last week's B.J., reveals a state of things which, though satisfactory from one standpoint, is, to my mind, far from being so, if it is considered how much the bee-keeping public owe to the central or parent association for work already accomplished, and how much remains to be done if the industry is to be permanently raised to its legitimate position in the country. I have myself seen bee-keeping emerge from an unscientific and obscure position to one the exact opposite of this, mainly through the efforts of those who have during the last thirty years or more banded themselves together with the definite object of arousing public interest in a pursuit at once healthful, pleasurable, and, to a very large extent, important. The success which has attended these efforts is very noticeable, and, as I think, deserves recognition.

I believe that if you would kindly inform us what the subscription amounts to, many well-wishers would come forward and join the Association, whether able to attend the meetings or not, simply on the principle that if the *body* is to be preserved in health and activity, the vital organs, and especially the "heart," must not suffer for want of nourishment. Next year's report would not then, I trust, contain such a sentence as this:—

"The balance of our *indebtedness* must be

cleared off, funds must be obtained to enable the Association to seize on the chances that may occur of advancing the position and increasing the usefulness of the Association in the country. The subscription income of £95 is absurdly small."

I am happy to say my bees have come through the Arctic winter admirably. Two double and one single are of double glass with wood outer cover, others are wood with outer covers or cases, and some two or three are of inch wood without cases; all have ¼ in. wood and about four quilts over the frames, with ¼ in. passage way.—F. V. HADLOW, *Buxted, Sussex.*

[The subscription to the B.B.K.A. is 5s. and upwards per annum, and we need hardly say how pleased we should be to learn that our correspondent's appeal has resulted in subscriptions being forwarded to the Secretary of the Association, Mr. J. Huckle, King's Langley, Herts.—EDS.]

BEE NOTES FROM HUNTS.

CAN QUEENS LAY DRONE OR WORKER EGGS AT WILL?

[2279.] In accordance with my usual custom I send you a report of my bee-doings here in Hunts during the past year. I wintered about thirty stocks and they did well till the middle of April, when the wind changed to the east and kept there till the middle of June; and this affected my bees so much that I don't think they were any stronger then than on May-day. In fact, some were on the verge of starvation for weeks, one stock dying in May, an experience I never had before. The honey-flow was of short duration, beginning a few days previous to the "Royal" Show and finishing up on the following Sunday with a scorching day, which blighted my crop of peas, knocking four or five coombs per acre off them. I think it must have blighted the clover as well, for the bees gathered no more honey, although we had several fine days during the next week. A strong swarm a neighbour hived for me when I was at the "Royal" gathering scarcely any honey. My take was about four hundred pounds, or less than a stone per hive, which is a poor average, as I reckon thirty pounds fair for this district; in fact, I am satisfied if I get that from my hives spring count. Several bee-keepers round here, however, got no surplus, so I must not grumble. I have not thoroughly examined my stocks since the great frost—and what a stinger it was! The weather has been too cold; but I glanced at a few last week that looked suspiciously quiet, and from the result am afraid there will be a greater percentage of losses than usual. What surprised me on examining these defunct colonies was to find in some of them great patches of sealed brood on two or three combs. The eggs must have been laid in January. 1. Is not that rather unusual? I gave them a cake of candy on top of frames, and 6 in. of chaff-packing in the autumn. When the weather is warmer each colony will get a cake of pea-meal candy, as I always think it stimulates breeding in spring. Foul brood seems to be claiming a lot of attention just now, but, happily, we are free from it in this district, although I believe it has got a hold in the adjoining county of Cambridge.

2. I should like to know if the queen has the power of depositing drone or worker eggs at will? I asked the question of an expert, and he said it was supposed to be determined by the size of the cell in which they were laid. On thinking it over, I cannot exactly see that, as I have seen drones hatched from worker cells when there has been a scarcity of drone cells in a hive. Perhaps you can enlighten me?—RICHARD FEW, *Needingworth, Hunts.*

[1. Brood rearing is quite common in January with strong stocks. 2. It has been supposed by some authorities that what may be termed "sexing" the egg is a merely automatic operation which takes place during the act of ovipositing—or laying—without special effort on the part of the queen bee. In other words, that the smaller size of the worker-cell necessitates contraction of the abdomen of the queen for insertion therein when depositing the egg; the result being pressure on the spermatheca, and consequent impregnation of the egg in its passage from the ovary of the queen into the cell. Without this impregnation the egg would, of course, produce a drone bee.

The physical structure of the queen and the position of the spermatheca gives considerable colour to the above theory, but it has been conclusively demonstrated that the queen herself possesses the faculty of depositing eggs which produce workers or drones at will. This may be verified (1) by placing a sheet of comb-foundation in centre of brood-nest in the height of the breeding season. In a few hours worker eggs will be laid in cells not drawn out more than one quarter their normal depth, and consequently where no pressure on the spermatheca could possibly take place; (2) By giving a prolific queen only drone-combs in which to deposit her eggs. In this case she will at first wander over the combs in apparent perplexity and distress, but eventually eggs will be laid in the drone-cells from which worker bees will hatch out.—EDS.]

WILTSHIRE NOTES.

[2280.] Walking down our village the other morning I espied my old friend, John, placing an ingeniously-made box filled with candy on the top of a skep, over which he carefully replaced the good old hackle, so dear to bee-keepers in the locality. This being the first fine morning of the year, I ventured to remark that no time had been lost in giving the bees

ention. "No," said he; "the harvest depends, you see, upon the next two or three weeks." Evidently John is very shrewdly conscious of what a good honey harvest depends upon.

In your current issue I see the final instalment of report of annual meeting of the B.B.K.A. The more hopeful view taken of the possibility of dealing with foul brood in a satisfactory manner, as expressed during the latter part of the proceedings, is, to say the least, encouraging. But how depressing it must have been to listen to the suggested remedies for disinfecting hives, especially to the remarks about taking them to the workhouse, the fever hospital, and goodness knows where beside. What an admirable arrangement—a journey of from twelve to twenty miles there and back! Of course, the horse, cart, and attendant would have to be passed through the disinfecting chamber in order to prevent spores acquired during the forward journey being carried back again to the hives during the return half.

I was much interested in that "steam cooking apparatus." I looked up Professor Long's "Book of the Pig," and there I found just the article required to ensure complete success. It only costs £25, that is all! I am in sympathy with Mr. Carr in saying "pity the poor bee-keeper." Why, if this sort of thing goes on, we may ere long—in the progress of civilisation—expect to hear the voice of the village crier announcing a "grand disinfecting day," when the County Council's travelling steaming, boiling, fumigating, and spore-killing apparatus will be at work on the village green, for the benefit of the foul brood afflicted bee-keepers of the district, warning all and sundry to bring their infected hives and appliances to be "gone over" forthwith, under pains and penalties in case of failure, &c., &c.

Do please, Messrs. Editors, give us full particulars of that simple plan of fumigating with salicylic acid, known as Hilbert's method, which will, I trust, enable us to paraphrase a good old song, and say "'Cheer, boys, cheer,' foul brood will soon be gone!"—LETT TRAB, *March* 16.

[The apparatus referred to is fully described in the *Guide-Book*, pp. 146-7, and 8.—EDS.]

AFTER THE WINTER IN LINCS.

THE STORM AND THE BEES.

[2281.] I find that the mortality among the bees during the past severe winter in my district has not been so heavy as might have been expected. Few bee-keepers have escaped loss entirely, but most have only lost one or two, the heaviest loss I have heard of being six out of nine stocks. Personally, I have lost one out of nine, and that, too, in one-half of a "Wells" hive, all the rest being in single hives, and have wintered well. The lost stock was a splendid swarm of last year, weighing 6¼ lb.

The cluster was away from the perforated dummy at the opposite end of the hive, and there was plenty of food in the hive, but no winter passage over the frames, nor was there on the other side, which has wintered well. The holes of the dummy are not propolised, and what brood there was was quite healthy.

Yesterday afternoon a high wind sprang up, so I went to inspect the condition of the roofs. One was blown off while I was watching, and another hive carried bodily off the bricks on which it was resting, but not overturned. While replacing the latter the next hive was bodily overturned and the roof of my poultry house blown off, so we had a pretty lively Sunday afternoon. I fortunately got the overturned hive soon put right again, but have not yet been able to inspect what damage was caused.—PERCY SHARP, L.R.C.P., &c., *Brant Broughton, Newark-on-Trent, District Hon. Sec. Lincs. B.K.A.*

BEE NOTES FROM SUSSEX.

[2282.] Since I last wrote, on February 13 (2231, p. 74), there has been a slow but steady improvement in the glacial weather; the long-continued and severe frost has at last passed away, after haunting us a bit by nights, and it is now possible to get to work once more in the perforce neglected gardens, and make up a little for lost time. Everywhere in this neighbourhood, peas and beans, early potatoes—and even the main crop—onions, parsnips and carrots, turnips, &c., are being hastily got in, and flower and vegetable seeds are being diligently sown. The softening ground is being dug and prepared for the later plantings and for the subsequent pricking and planting out, and the wreck left behind by the recent wave of excessive cold is being gradually cleared away.

But what a scene of desolation meets the eye! Shrubs which have withstood many previous winters, such as laurels, ancubas, euonymus, laurustinus, bays, are rapidly shedding their sere and shrivelled leaves, and it remains to be seen whether there is any life left in the bare brown stems disclosed to view, or even in the roots; whether the naked skeletons will sprout out afresh later; whether they are withered down to the ground, as many fear; or whether the very roots have also perished, as is certainly the case in some instances.

As yet none of the seasonable green tints of spring are to be seen; only brown, withering leaves and blackened sticks. Everything is a good month or six weeks later than last year. And when the poor bees, tempted out by the warmer southern breezes, and more powerful sunshine, and more genial temperature, roam feverishly about far and near in search of a few droplets of nectar, or a few granules of pollen, of the former they can find

none, and for the latter they dive frantically, frequently four at a time, into the few crocus-cups as yet to be seen, or hover persistently round the same snowdrops or the same earliest primroses. One feels quite sorry—not to say distressed—for them. They are strong on the wing, indefatigable in their hopeless researches, taking water freely, but there is really next to nothing for them to glean from the general barrenness.

Nor can there be for some time to come. The fruit-buds—apple and pear, quince and medlar, red and black currant, gooseberry, raspberry, &c., &c.—are just beginning to swell; but the hedgerows and trees, as yet, make little or no sign, and everything seems nipped, repressed, and backward. The autumn-sown plants, which should now be making a fair show, are all killed—stocks, wallflower, alyssum, silene, geum, nemophilia, for example, all have perished. In my own sheltered garden only some forget-me-not has survived; and a few plants of arabis on a protected border; but campanula, Canterbury bell, columbine, pæony, polyanthus are also safe. Until these and the flower seeds now sown come into bloom, there can be absolutely *nothing* for the bees but what they can obtain from the bulbs—snowdrop, crocus, hyacinth, tulip, daffodil, narcissus, lilies, and such like; from the fruit-blossoms and from the trees; and from early wildflowers. And when will these be ready?

I should feel very unhappy about my remaining five stocks did I not know them to be well provided with stores; and were it not that I cannot induce them to take pea-flour as artificial pollen, although I have had small tubes made specially to fit on the alighting board of each hive, and have tempted them by putting honey amid the flour. They go in freely, carefully take out the honey, but evidently turn up their apologies for noses in bee fashion at the make-believe pollen. They also clear out with surprising alacrity any uncapped frames of honey I introduce to their notice within the hives.

My surviving stocks have so far done well, are strong, healthy, and active. They are beginning, as last year, to build brace comb wherever they see a fair chance—only a full month later; and after this winter's experience I am satisfied with the perfect success of my glass covers, as there is no trace of damp, mildew, or dysentery within, and it is most convenient just now to be able to see at a glance the condition of the bees, the state of their stores, and what they are doing—their playful addiction to brace comb building, for instance.

The practical difficulty I have been trying to solve to my own satisfaction is this, and it is one I have long foreseen: I am persuaded from past experience the less I pull my hives about the better; and no ambition to pick out queens, to crowd the bees on frames, to extract end combs, &c., which one sees so constantly advocated, will induce me this year to worry and harass unnecessarily my industrious little friends. I shudder to think of what I read and know these unfortunate victims go through on occasions in over-zealous hands; and I can quite hope a time may come—somewhere about the year 2,000 perhaps—when no one will be allowed to keep even bees (much less any other creatures) who has not gained some certificate, or given some other guarantee both of competency and humanity; and when even the long-suffering bees will be protected from well-meant over-meddling. Meanwhile, I want to give my energetic brace-building protégés something better to do; but if I put on shallow frames or sections, in the first place I can no longer see how they are getting on at this critical time down below; in the next, it is a very delicate business to feed them so carefully that they will only build comb and not store up syrup in the supers; and thirdly, just at this very time they ought to be kept as snug and warm as possible, and be interfered with, and chilled as little as may be, while they are hatching the young brood, unless one particularly wishes to have spring dwindling. So that I have to find a solution to a dilemma which seems to have quite an abnormal supply of horns.

Seriously, I may be mistaken, and no one will be more glad than myself if I prove to be so; but it certainly does seem to me that the apicultural outlook this spring is one of the most cheerless well imaginable. Here are the bees come (mine are, at any rate) well through the winter, numerous and lively, their young brood coming along fast, their stores quickly disappearing, and so foraging with the energy of despair, and the end of March is arrived, and there is positively nothing outside the hives for them to feed on or store up; and, what is worse, no prospect whatever of anything to speak of for at least six weeks to come! I should imagine that the price of sugar will go up briskly indeed, and that the faces of bee-keepers will lengthen as their pockets lighten!

I greatly fear that bees in skeps will have mostly perished from cold or famine, or both. I heard of a neighbouring bee-keeper who has lost seven out of eight stocks in frame-hives! On the other hand, a nearer neighbour has by heeding advice successfully wintered all his six stocks, and I have lost but one weak lot out of six stocks in frame-hives.—W. R. N., *Sussex, March* 21.

Echoes from the Hives.

Wakes Colne Rectory, Halstead, March 11.—Please send me a box of naphthaline, as before. This is the drug for the bee-keeper; to us it has been invaluable. Twelve out of thirteen hives safe and strong, after all the severe frost; thirteenth lost through slabs of

hard food being left without vacancies for bees, or winter passages.—E. BARTRUM.

Rochester, March 11.—I thought of giving my bees a little warm syrup now. For the two previous winters I covered the hives with thatched gates, but I thought this last was going to be a very mild one, and consequently left my thirteen hives uncovered. Eleven of these have come through safely, so far as being still alive, but I have not opened the hives to see their actual strength or condition. I thought to give warm syrup for two or three weeks, and then choose a mild day for examining thoroughly. I noticed some of them fetching water to-day. With one stock last autumn I fitted two pieces of glass together and cut a hole in the centre for feeding; the glass was laid on ¼ in. strips of wood, so that the bees could run over the top of the frames. They seem all right now, and there are quite a lot of bees. I use old books and newspapers above the quilts to the depth of 4 in., and it answers well.—RICHD. ILLMAN.

County Police Station, Ipswich, March 21.—I have lost two stocks out of twenty-two this winter; the rest have, up to present, wintered wonderfully well. Both these cases were from the first rather weak colonies.—CHAS. E. FISHER.

Wadebridge, Cornwall, March 21.—Weather here beautifully mild with genial showers. Bees busy carrying in pollen at intervals of sunshine.—H. LANDER.

Queries and Replies.

[1244.]—*Mouldy Combs in Hives.*—On opening my frame hive I find the comb more or less tainted with mildew, like sample sent. Will you please say what is the cause and remedy for same? and what I shall do with them at present? The frames next the dummies are the worst, and the mischief diminishes as you go to the centre of the hive. The floor was damp and wet, but there were very few dead bees about, all seeming lively and strong.—GREENHORN, *Darwen, March* 19.

REPLY.—The slight mouldiness seen in comb sent cannot be guarded against except by removing all combs not covered by bees when packing the hive for winter. All combs not so covered are liable to be more or less affected by the atmosphere of the hive. The bees will, however, soon remove all traces of mould when requiring the cells for breeding purposes.

[1245.] *Adopting the Frame Hives.*—As I am about adopting the frame-hive system, I would like to know, through the JOURNAL, whether it is customary, when putting whole sheets of foundation into standard frames for brood nest, to insert any drone foundation? I may mention that my bees—eight straw skeps—have wintered well, and all seem pretty strong. The district is a good one for white clover, and I am within half a mile of the heather. There are several skeppists in this locality, and the newer system only requires to be begun to enlist most of them. No such thing as foul brood in this district.—JOHN RICHARDSON, *Peebles, March* 18.

P.S.—If successful, I will give an account of my season's work in autumn.

REPLY.—The space of half an inch between lower edge of the sheet of foundation and bottom bar of frame is quite sufficient for the drone cells required in a hive, therefore only worker-cell foundation should be given. Glad to hear of your future progress with frame hives.

[1246.] *Drones in March.*—Three weeks ago, the day being warm and sun shining brightly, I went into the garden to look at the bees, which were flying grandly, but noticing drones flying from one of the hives, I thought there was surely something wrong. However, I had a look into the hive last Saturday (March 16), and saw plenty of brood, and also some young bees running on combs. There were also some adult drones, although I saw the same hive killing the drones last year. 1. Is it not unusual for bees to allow drones to live through the winter and spring when there is a fertile queen and plenty of brood in the hive? 2. Can you account for this state of things? The drones were again flying briskly on the 17th. The worker brood is all right, but there is no drone brood.—J. REEKIE, *East Fife, March* 22.

REPLY.—1. Very unusual indeed, if the queen is still hearty and laying well. 2. We cannot account for it, but will be glad to have further particulars of how the stock gets on, as its history for the next month or two might tend to throw some light on what seems quite unaccountable to any one not able to inspect the hive.

[1247]. *Disappearance of Bees.*—The following seemed to me a rather peculiar experience, and I give it for what it is worth. I commenced bee-keeping last autumn, when I drove two straw skeps, united the bees in a frame-hive, and fed them up with syrup. Last Saturday on examining I found the frames and combs considerably spotted with indications of dysentery, very few bees on the combs, and a great many dead on the floor. Those on the combs were in a comatose condition, apparently dead. I looked carefully, but could not find the queen, and thinking the bees dead I took out the frames and stood them against an empty hive close by, leaving them there all night. The next day was very warm, and on going round to my hives I found that a large number of the bees had revived and were eating the honey, of which there was a good quantity; they continued to do this until dusk, when they all disappeared, and I

have only seen a few about since. Can you account for this?—A. G. Eveson, *March* 22.

Reply.—The few bees which revived (if any did so) will probably have joined those carrying off the honey, which would, no doubt, be the bees of other hives, either belonging to yourself or your neighbours.

REVIEWS OF CONTINENTAL BEE JOURNALS.

By J. Dennler.

(*Continued from page* 100.)

Deutsche Bienenzucht in Theorie und Praxis. — Editor F. Gerstung. — Preventive Measures against the Spread of Foul Brood.—The central society of Silesia came to the following decision at its meeting on December 28 last. All applications for the admission of live bees to the exhibition which is to take place at Görlitz in September next, at the sixth meeting of the Central Society of German Bee-keepers, must be addressed to the President, M. de Prittevitz, and be accompanied by a certificate declaring that foul brood does not exist in the apiary from which the hive containing the bees is to be sent. These certificates will be given by competent persons appointed by the presidents of the various societies.

Bienenzeitung. Editor, Vogel. — M. O. Barleben, an engineer, has eighty hives. To save time in taking swarms, he clips the wings of his queens. At swarming time he finds his first swarms on the ground in front of the hives. He then cuts out all queen-cells but one from the hive that gave the swarms.

Oesterreich - Ungarische Bienenzeitung. Editor, P. Schachinger. T. Winkler attributes the grey colour of wax to :—

1. Hard (lime) water.
2. Dust.
3. Grey pollen.

A reddish colour to :—

1. Large quantity of red pollen.
2. Contamination with tin.

A brown colour to :—

1. Iron rust.
2. Excrements of wax moth.
3. Burning of the wax.
4. A too sudden cooling of the liquid wax, preventing the impurities from settling.

Deutsche Illustriertes Bienenzeitung. — Editor, C. F. H. Gravenhorst.—The Central Society of German Bee-keepers will hold its sixth general assembly from September 25 to 29 next, at Görlitz, in Silesia.

Bienenwirtschaftliches Centralblatt.—Editor, Lehzen.—A bee-keeper in the Grand Duchy of Oldenburg obtained in 1894 from his hives 6,600 lb. of honey and 450 lb. of wax. One village in the heath district of Oldenburg despatched 8,000 postal boxes of honey, which reached nearly 72,000 lb. in weight.

Le Rucher des Allobroges.—President, M. Minoret.—The following communication was presented by M. Minoret, at the Congress of Nancy :—In 1893 I made eau-de-vie with honey of inferior quality from the plains, such as that from chestnuts and buckwheat. Seventeen kilos. of this honey gave me about 11 litres of eau-de-vie of from 60 deg. to 61 deg. of strength. To make it ferment I placed 50 litres of water in the extractor with 15 kilos. of grapes gathered in my garden. After crushing the grapes I put the bunches in a sieve, which I placed on the extractor, allowing the juice to percolate into the mixture of honey and water. I then placed the extractor in a close room, in the sun near the window, and covered all over with a cloth without taking any further trouble. Fermentation was completed in thirty-five days, when the liquid was distilled. The process is quite simple. By this process 100 kilos. of honey furnish 65 litres of eau-de-vie.

Illustrierter Schweitzer Bienenfreund.—Editor, A. Studer. The frog is a determined enemy of bees, which in spring and summer it eats in large numbers. The creature takes up a position usually in a field of clover, or near flowers much frequented by bees, in order to catch and eat them at leisure. As many as twelve bees have been found in the stomach of a frog at one time.

Nahhla, L'Abeille.—Bulletin of the Society of Algerian Bee-keepers. Editor, Dr. Reisser. Statistics of Deaths Attributed to Bees.—An American has published returns of all cases of death attributed to bees during the last eight centuries in the whole world. The number reaches twenty-two. After analysing the facts only four instances are clearly attributable to bees, two of which happened to thieves who imprudently during the night eat of the stolen combs; one to a greedy child, also from eating comb carelessly; and the last case is that of a woman in the Vosges, who, in taking a swarm off a tree, fell from the ladder, and the bees, precipitated into space, attacked her, inflicting thousands of stings. In all the other instances the fatalities were due to wasps or hornets.

(*To be continued.*)

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

G. J. Burden (South Woodford).—*Stimulative Feeding.* — 1. In uncapping sealed combs for stimulating in spring it is sufficient to scratch or break a few inches of the surface with the edge of the knife without removing the cappings at all. The uncapping should be done about every four days, and the smallest exposure of the sweets will cause the bees to remove the contents of the honey cells into the particular comb where breeding is going on.

2. Artificial pollen, *i.e.*, pea-flour, is usually given in an old skep or box which has been inhabited by bees, the odour of the receptacle attracting them to the spot where the pea-flour is placed. The skep is placed in a sunny spot, and partly filled with clean wood or paper shavings, on which the pea-flour is thickly sprinkled. Some bee-keepers put a little of the flour into the cups of crocus blooms, from whence the bees soon carry it off.

F. A. CHINCHEN (Longfleet).—*Using old combs.*—1. If the bees perished from dysentery, it naturally follows that the food in the combs will most likely be unwholesome to have caused the disease. We should therefore not feed other stocks with it. 2. The comb's also, if much fouled by the excreta, should be melted down for wax. 3. The pamphlet referred to on p. 120 can only be had from the author, whose address is Aylesford, Kent. 4. In selecting drones for breeding purposes as described in "Guide Book" (p. 121), the colony from which early drones are desired is treated precisely as directed, and when thus reared are ready for mating purposes before the ordinary drones are on the wing.

"*Transferring Stocks*" (Martock).—1. The middle of a bright, warm day in April will be most suitable for the transferring to new hive. 2. As the frames will not occupy the same position relatively in the new hive, care must be taken that there are no such irregularities in the surface as will bring the combs at any point closer on the face than ¼ in., or the bees will probably attach them together, and so create difficulty in handling.

DOUBTFUL (Chelmsford).—1. The fact of bees being placed in an orchard of 100 apple-trees would not have much effect on the amount of surplus honey stored, because, though in some seasons the apple yields fairly of honey, it cannot be relied on. 2. Honey gathering is shown by raising the quilt a little, when the edges of the combs will have a white appearance, as if the cells are being lengthened out. 3. Super-clearers are described in B.J. for June 15, 1893 (p. 232). 4. It is a matter of opinion whether frames should be at right angles to, or parallel with, the entrance. We prefer the former. 5. Don't use old combs in fitting up shallow frames for extracting; have new ones built. 6. We attach no value to the fable of the "longer tongue of the Italian bee." Second crop red clover sometimes yields honey to the hive bee, but the first crop is of no value to the bee-keeper. 7. If you "start an out apiary" at some distance away, you must have some one at hand to secure swarms, or they will be lost.

C. A. (Hinckley).—1. Many bee-keepers use no excluder-zinc below sections; it is a matter of preference. 2. Experienced hands always hive their swarms into the permanent hive so soon as the bees have settled in the hiving skep, but beginners find it safer to defer the final hiving until evening, when the bees will stand "knocking about" without risk of them taking wing. The swarm—whether hived in a skep or "in a bucket"—must be carried to the hive mouth downward, and thrown on to the frames—as your hives have fixed floors—covering the bees at once with a light sheet until they have descended into the hive.

H. O. W. (Leeford). — 1. Our copy of "Root's A. B. C. of Bee-Culture" is dated 1888, and there have been several editions issued since. 2. Dr. Tinker's book "Bee-Keeping for Profit," can be had from the author, Dr. G. L. Tinker, New Philadelphia, Ohio, price 30 cents, including postage.

H. T. ICINGBELL (Taunton).—There is no foul brood in comb sent; food in the cells, however, is thin, and inclined to ferment, which would account for the dysentery in the defunct bees. We should not advise using such combs again, but have new ones built.

C. GARDNER (Northampton).—Combs like sample sent, which is black with age and filled with old, mouldy pollen, are only fit for burning. The small quantity of (what you call) honey in the comb sent is not wholesome bee-food. It is like thin, badly-made fermenting syrup. We should certainly not allow the bees to clean out such food, but burn the lot.

FRED. G. BENNISON (Darlington).—1. We cannot give any opinion on the "treacly-looking substance" without seeing a sample of comb containing it. If, as stated, your stocks are "in grand condition," it rather negatives your suspicion of foul brood; but that is all we can safely say. 2. There is foul brood among bees in your county, but as to the extent of its prevalence we cannot say.

ELY.—*Mouldy Combs.*—If the mouldiness is not excessive, the bees will themselves remove it, and with combs of last year's building we should allow them to do so.

A DURHAM READER. — *Bees not Leaving Hive.*—Why the inmates of your friend's hive, "with a plentiful supply of honey and plenty of bees" should "never come outside the hive" is a mystery we cannot explain from a distance. Our first thought would be to see (1) if bees were dead, or (2) if they *could* get out if they tried. On no other grounds can we imagine them being so lazy and unlike the "busy bee" with which bee-men are familiar.

ST. ALBANS.—No foul brood in comb received, but it is old, black, and the cells are choked up with mouldy pollen; consequently it is of no use whatever, not even for melting down for wax.

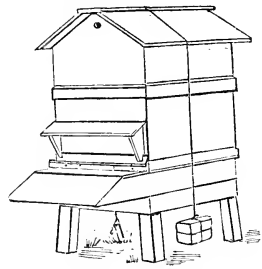
Editorial, Notices, &c.

USEFUL HINTS.

Weather.—At length there would appear to be fair grounds for supposing that the warmth of another spring is at hand, or, shall we say, for believing that the hurricane which did such havoc on the 23rd and 24th has carried off with it all that remained of one of the severest winters in modern records. Anyway, the bee-keeper has again the always pleasurable sensation afforded him of seeing the bees at work busily carrying in the first pellets of pollen for '95. The frequent recurrence of warm days will also give, to even the most dilatory, plenty of opportunity for getting through his first spring overhaul and finding out how the bees have "come through." We are not going to anticipate results as to winter losses, but simply express a hope that readers will find the general condition of their stocks as well or better than—under all the circumstances—they might have been, and that this will content them. The battle with King Frost is now over, and no time should be lost either in burying the dead or attending to the wounded. Many a good stock of bees *in extremis* through want of food may yet be saved from perishing outright by the prompt giving of a pint of warm syrup, and we may well cry "Shame" on the bee-keeper who allows such a thing to happen after April has set in.

Repeating Replies.—It is not without some valid reason that "A Reader" makes what he calls his "complaint of the frequent repetition of replies to the same questions which appear in the current numbers of B.J." This "complaint" is not new to us; indeed, we might confess to having been the recipients of outside sympathy on account of *our* troubles in that line. But it should not be forgotten that the mission of the B.J. is mainly to teach, *i.e.*, to help those who "don't know." Those who do, need no help, and while it is, no doubt, trying enough for the veteran bee-keeper to encounter too often the simple questions of his less experienced brother in the course of his reading, it will be admitted that our share of the business is not free from its trying side also. We may, however, be acquitted of any desire either to lessen the usefulness of our paper to the beginner, or to limit the dimensions of its Query Column if we refer several correspondents—whose communications are before us—to pages 128 and 130 of last week's issue for replies to their queries.

Hives in Storms.—Referring again to the tremendous gale of a few days ago, some rather alarming accounts of its effects in exposed places appear in this and last week's numbers, while we have had several letters, not for publication, wherein similar and worse mishaps are recorded. We are also asked to give the best way of securing hives from being blown over, or having roofs, "carried several fields away." Of course nothing seems easier than weighting down with stones laid upon roofs, but we confess to a preference for our old plan, as shown in the accompanying "cut" below. A stout, notched stake, 12 to 18 in. long, is driven in the ground, close



under the hive-stand in an oblique direction, point inwards. One end of a strong cord is fastened to the stake, and to the other a couple of bricks. This keeps the roof quite secure, yet easily removable. In very exposed situations, where hive and stand run a risk of being overturned, a second stake is driven in on the opposite side, and, by using a longer cord, the latter may be passed over the notch of the second stake and carried over roof again, thus tying hive and stand down to the ground.

Using Old Combs.—Regarding the value of old combs from hives in which bees have died during the past winter, and as to how far they are useful for using again with swarms, we may say that—judging from the many samples sent for our opinion—very few of them

are of the slightest use for anything but melting down for wax. Moreover, all that are either black with age, filled with hard, dry pollen, or bearing any signs of disease, are fit for nothing short of the fire, and a thorough burning with that. Some cases will no doubt occur where the combs are in good condition and contain wholesome food; these may be retained and made useful; but we advise being very chary of using food in combs for the sake of economising where there is the smallest risk of disease about.

In grading combs intended for melting down, too, those which are dirty or full of pollen-choked cells are better burnt than mixed up along with better ones; they lessen rather than increase the quantity of wax got, and spoil its colour. On this latter point it is generally known that the yellowish brown colour of the wax, of which brood foundation is usually made, is largely attributable to the quantity of pollen it contains. Some interesting and useful information as to the causes of the various other colours which beeswax assumes is given by an Austrian bee-keeper on p. 129 of our last issue.

CHAPMAN HONEY PLANT.—We have been quite taken aback by the number of requests received for seed of the above, and, pending the chances of obtaining a further supply, we must ask that no further applications be sent at present. Mr. S. Killick, of Oxted, has, in response to our invitation of last week, been good enough to send a large packet of seed, which, in addition to a small quantity sent by a lady, has been distributed to over another hundred applicants, and, unless this notification should induce some reader to supplement this, we can send no more. This year, no doubt, the Chapman honey plant will be sufficiently plentiful among readers to allow of "free seeds all round" for 1896—a marked contrast to the 2 dols. per oz. which (according to Root's "A.B.C.") was originally charged for it in America.

BRITISH BEE-KEEPERS' ASSOCIATION.

The following letter, together with syllabus of regulations for examinations for Lectureships in the Science of Apiculture, have been forwarded to Agricultural and Technical Colleges in the United Kingdom :—

17, King William-street,
Strand, London, W.C.
March, 1895.

DEAR SIR,

The British Bee-keepers' Association, founded in the year 1874 for the promotion of scientific apiculture, has been steadily at work with this object in view, and has achieved important results throughout the country during the last twenty years.

As the recognised central authority in matters relating to bee-keeping, the Council is in touch with the various county associations—nearly thirty in number—gives them advice and help of various kinds; offers prizes and medals to be competed for at shows of honey, wax, and apparatus used in bee-keeping; sends judges to such shows; undertakes examination of candidates to become certificated first, second, and third class experts, of whom there are now 207 on the published list. By these means, and in other ways, the Association has greatly extended intelligent and humane methods of managing bees, and has secured a largely increased production of honey and wax.

Owing to substantial sums of money being now annually voted by County Councils for the teaching of apiculture in rural districts, it has been represented to the association by influential persons that there is a distinct need of lecturers of greater scientific knowledge, and of abilities for conveying public instruction considerably beyond those possessed by the ordinary certificated expert. Such lecturers, if thoroughly competent men can be secured, will become teachers of bee-keeping, and will, it is believed, find remunerative employment under the various local authorities. They will also be most useful in attracting to the too-much neglected science and art of apiculture the attention of our educated classes.

The Council of the British Bee-keepers' Association have, therefore, determined, after mature consideration, to undertake the examination of candidates for such lectureships, and have drawn up the series of regulations herewith enclosed.

A copy of this circular letter will be sent to the Universities, the Agricultural and Technical Colleges throughout the country, and to such other institutions as may be considered likely to furnish candidates at the proposed examinations.—I am, your obedient servant,

THOS. WM. COWAN,
Chairman of Council.

REGULATIONS FOR EXAMINATIONS FOR LECTURESHIPS IN THE SCIENCE OF APICULTURE.

1. Every candidate shall produce evidence of having received a good general education, such as a certificate of having passed Responsions at Oxford, the Previous Exam. at Cambridge, the Matriculation Examination of the

London University, the Senior Oxford or Cambridge Local Examination, the First-class College of Preceptors' Examination, or such other testimony as the council of the British Bee-keepers' Association shall approve.

2. The examination shall extend over three days, and shall include the following subjects :—

1. The Literature of Bee-keeping.
2. The Systems in vogue in different countries in modern and remoter times.
3. The Natural History of the Bee, including the Physiology and Anatomy.
4. The Produce of the Honey-bee.
5. The Establishment and Management of Apiaries.
6. The Diseases of Bees and their Treatment.
7. The Relation of Bees to Horticulture and Agriculture.
8. Bee Appliances and their Relative Value.

3. A certain amount of practical skill shall be shown in simple manipulations. (The necessary amount of practical skill could be acquired by a week's training during the working season in an apiary of repute.)

4. Ability to give outline or complete lectures, with or without notes, will be required. (Special stress will be laid on this point by the examiners.)

5. The fee for the examination shall be three guineas. Any candidate failing to satisfy the examiners may present himself at a subsequent examination at the reduced fee of two guineas. All fees must be paid, and notice of intending candidature must be given to Mr. J. Huckle, secretary, British Bee-keepers' Association, King's Langley, Herts, at least one calendar month previous to the dates which may be fixed for holding the examination.

LEICESTERSHIRE B.K.A.

The annual meeting of this association was held on March 23, in the Mayor's Parlour, Old Town Hall, Leicester. A large number of members attended, including several ladies. In the absence of Sir Israel Hart and Sir Thos. Wright, neither of whom were able to attend owing to domestic matters, Mr. A. G. Pugh was elected to the chair. After the minutes of the last annual meeting had been read and confirmed, the thirteenth annual report and balance-sheet were submitted. The total payments amounted to £44. 19s., and receipts and cash in hand to £42. 11s. 5½d. Notwithstanding this small adverse balance of £2. 5s. 6½d., the association is, on the whole, in a very satisfactory position, the deficiency being caused chiefly by several supporters not contributing as usual, owing to the agricultural depression. The report and balance-sheet were adopted. Among the various matters dealt with in the report it was stated that great progress has been made. Many new members had joined, and owing, no doubt, to the efforts of the association, there have been better results both in the way bees are kept and in the manner of handling and harvesting honey. The county has partially been divided into districts, and the local secretaries have rendered valuable help by enrolling over fifty new members, making a net increase for the year of twenty-one.

The officials and committee for 1895 were elected as follows :—President, His Grace the Duke of Rutland, K.G. ; vice-presidents, the Marquis of Granby, M.P., with life members and subscribers of 10s. and upwards ; hon. treasurer, Mr. H. M. Riley ; hon. sec., Mr. J. Waterfield, Kibworth ; committee : Miss Chester, Miss Throsby, and Messrs. Nicholson, Carter, Cooper, T. J. Clark, Rev. T. C. Deeming, Drs. Emmerson and Fulshaw, W. P. Meadows, Fawkes, Widdowson, and Martin, and the several district secretaries.

The prizes won at the Agricultural and Abbey Park Shows were then distributed, and a hearty vote of thanks to the chairman brought the meeting to a close.—*(Communicated.)*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

*** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

"NOTES BY THE WAY."

[2283.] By the time this reaches the office of B. J. we shall have passed what the almanacs term "All Fools' Day," and the fourth month of '95 will have commenced. The year so far has been a disastrous one for bees, and an expensive one for bee-keepers, with every prospect of a continuance of expense for some time to come. The fields are barren, the woods still leafless and bare, scarcely a primrose to be found even in the most sheltered spots. I noticed to-day the buds of the willow begin to swell, but we shall have no palm in bloom by "Palm Sunday" in this part. The cyclone of the 24th prox. whipped the few snowdrops and crocus blossoms out of existence, and the past week has been so wet and cold that the bees have not had a chance of a flight till the 31st, when a few hours of fitful sunshine set them busy in the skeps after the

substitute for pollen. If the condition of my own apiary is any criterion of the general trend, then I say, feed! feed! feed! Reports of losses still reach me as I "talk bees" with bee-keepers, and nearly all losses have been from starvation, the few from dysentery and queenlessness.

I found a case of foul brood at a friend's apiary last autumn, and advised burning the whole of the contents of the hive, and on calling the other day, found my instructions had been carried out. I shall examine the remaining colony (very strong in bees now, I am told) later on when I am in the district again, and if I find it infected I shall try Mr. McEvoy's method of cure.

Do bees pay? I am often asked. I reply—Yes, to the specialist; but the man who expects that they will board themselves and fill supers without any management or care, will be woefully disappointed when he tots up expenses and expects a fortune out of a few hives. I say, and I speak from practical experience, that the road to fortune is not through a *bee-hive*. The enthusiast in his first years of bee-craft may have one or two hives that give a large surplus; the season may be of the kind to rejoice the bee-keeper's heart; the crops in the immediate vicinity of the hives may be of the best, one following the other in succession; the climatic conditions compatible to a good flow of honey, and his best colony may earn the distinctive title of "The Old Hundredth," this abnormal quantity may be sold retail at a good price to admiring friends, and our enthusiast's bosom swells with conscious pride as he strikes the balance at the end of the harvest, and vows that another year his apiary shall be increased to a goodly number of hives. These the fond dreamer hopes and expects will all reach the average of the present colony—or, may be, the average of his present number of stocks—never considering that his environment may be changed considerably in even one season by drought, by a killing frost, by a wet season—sometimes, aye, by a succession of unpropitious seasons—and our erstwhile enthusiast will discover that he was pecking about in the callow down of folly rather than, as he believed, in the full plumage of wisdom.

Speaking of environment reminds me of the good old times for bee-keeping hereabouts, when, in May and June, our hedgerows were white with hawthorn blossom, and the air was fragrant with its balmy odours. But now, under the present system of closely-clipped hedges in lanes and fields, we get practically no "May-blossom" honey, and with "Inclosure Acts" the commons have passed away, along with their wealth of blossom, during the greater part of the year—*i.e.*, the gorse, the broom, the heather, the wild flowers, in continued succession. The fields under cultivation are not what they were a decade ago in the matter of honey-producing plants, high cultivation having given place to a condition approaching, in some instances, *feræ naturæ*. The mixtures of grasses sown for "ley" are different, all containing a smaller proportion of that queen of bee flowers, white clover; and comparatively small breadths of trifolium are now sown. All this tends to circumscribe the forage-ground of the bees. A few years back the extension of dairy farms was instanced as being likely to add to our honey crop in pasture districts; it would be very interesting if our bee-keeping friends living in those districts would state how far these prognostications have resulted. In reply to a recent inquiry in B.J. as to size of honey tins, I have two shapes, each holding 14 lb.; one 6½ in. high by 8 in. diameter; the other 10½ in. high by 6 in. in diameter, both lever-lid tins of the S.O.T.B. Co.'s make. Another "kink" I would chronicle comes from "Gleanings." "To fill cracks in wood, such as hive roofs, gaping cracks around plinths of hive bodies, &c., mix paint and dry sand—better if sand is used hot—and well work it into the crack." The writer in "Gleanings" says "it does not shrink." I have used it, but thought others would like to try it also—time will prove if it is a reliable stopping for cracks; putty fails, I know from experience.

Foreign honey, I am sorry to hear, is being palmed off on the British public as "pure British" or "pure English honey." Will the Trade Marks Act reach these nefarious practices and punish the persons who are trading on the reputation of honest English bee-keepers' produce? Here on the one hand are bee associations endeavouring to increase and safeguard one of our minor industries; then, so soon as a trade is established, foreign honey is foisted on the public as "English." I have not the slightest objection to the sale of foreign honey providing it is sold as such, then the purchaser will know the source of the product and be, to a great extent, protected against fraud, both in quality and price. This game has been going on some time, to the detriment of honest British producers of honey. Possibly there is some clarifying process (similar to the molasses clarifying with sulphate of zinc, which has lately attracted attention in scientific circles) as I hear the colour of this foreign honey is fair. Has the time arrived when a "Bee-keepers' Trade Protection Association" should be formed to prosecute in these cases?—W. Woodley, *Beedon, Newbury.*

DYSENTERY.

WHAT CAUSES IT, AND HOW CAN IT BE PREVENTED?

[2284.] So far, it has been my good fortune never to have seen a single case of that bee-pest known by the name of foul brood. There is, however, another bee-pest—viz., dysentery—of which I have had more experience than is either profitable or pleasant. Four years ago we had a very severe winter—something like ten weeks of continuous frost, accompanied

with dense fogs, at the close of which I discovered that many of my stocks were badly affected with dysentery. Some of my best stocks were dead, others were reduced to such a wretched state that they never recovered, thereby reducing my forty colonies to something like twenty; in other words, I sustained a loss of nearly 50 per cent. of my stocks. My bees were all located in good sound hives, and were well supplied with stores. The question then naturally arose as to what could be the cause of the mischief, to which several replies were immediately forthcoming. A well-known bee-keeper and an intimate friend of mine said, "It's your faulty system of management that is at fault. You have always sworn by the long hive and the parallel system, and now you see where it has landed you!" Well, such an explanation might have been satisfactory but for the fact that about one-third of my stocks were in square hives, with the combs at right angles to entrance, the percentage of diseased stocks being just as great in the one case as in the other, thus proving that the position of the frames had nothing whatever to do with the matter. It was then suggested that ventilation was at fault. Well, some of the hives had entrances 9 in. wide; others were reduced to about 2 in. In either case there were healthy stocks and stocks killed by dysentery, proving the ventilation theory to be just as groundless as that of the position of the frames. Finally it was argued that I must have used unsuitable sugar for feeding-up in the winter; but I had only used about 30 lb. of sugar, and that was given to about three stocks. All the rest had, I was going to say, natural stores; but anyway they had stores of their own gathering, therefore the blame could not be laid to the sugar.

The question was then passed by as unaccountable, with the hope that, as that was the first experience of the kind after many years of bee-keeping, it would also be the last. The next winter my bees were packed in the same manner, in the same hives, and located in the same position. They all came out in the spring healthy, and fresh as a rose, hardly a dead bee to be seen, which may be said of each succeeding winter until the present occasion.

At the present time I have two apiaries, one at Huntingdon, the other at Brampton, not more than two miles apart. My Huntingdon apiary, where dysentery was so bad four years ago, consisted last autumn of about forty stocks, which, with one or two exceptions, have wintered splendidly. Never had bees wintered better. My Brampton apiary at the same time consisted of about eighty stocks, which, to simplify matters, I will divide into four lots.

Lot 1 consisted of twenty skeps purchased in the autumn, and brought a distance of about ten miles. They were well supplied with natural stores. These were put up in a somewhat careless manner, old doors or anything that came to hand acting as floor boards, while the only coverings used consisted of old tea trays and sheets of corrugated iron weighted down with bricks. They have all wintered well—hardly a dead bee to be seen. Lot 2 consisted of stocks made up of driven bees and fed entirely on sugar. They, with the exception of one or two that ran short of store, have come out in good condition —hives as dry and clean as the day the bees were put in. Lot 3 consisted of natural swarms and stocks, which stored in the brood combs honey gathered in the early part of the season. Most of these had dysentery, but of a comparatively mild form. We now come to Lot 4, consisting of stocks which had either stored the early-gathered honey in sections or had used the same for brood-raising, and were therefore depending on late-gathered honey for their winter support. These were very badly affected with—I was going to say dysentery, but that term scarcely describes the condition they were in. It just looked as if some one had been to each hive, turned back the quilt, and then poured in a quantity of chocolate-coloured paint in such a manner that it splashed all over the frames, combs, hive sides, and floor board. The bees, of course, were dead, or so reduced in number that they were useless.

The cause of dysentery then—so far, at all events, as my case is concerned—is very plain, and the remedy is not far to seek. I am sanguine enough to believe that I shall never again suffer any loss from this evil. More might be said on the subject, but my letter is already somewhat lengthy. Perhaps others who have had experience with this bee pest, dysentery, will be good enough to give us their opinion as to cause, &c.—A. SHARP, *The Apiary, Brampton, Huntingdon.*

NOTES FROM HEREFORD.

[2285.] I am just recovering from a sharp attack of influenza. Propped up on pillows while writing, I can survey through my window a lovely spring day, which makes one long to be about again. Except when reading, the hours pass as days, still I have been able to do that, and write a little.

I have wondered how hives in general have stood last Saturday's gale. Mine are right, I'm glad to say; every winter I place a couple of bricks on each hive.

In this district chimney-stacks have been going through the roofs, and slates flying about like gigantic hailstones.

Two of my stocks have gone; the long confinement did it. There was plenty of food, but the bees could not move to it. One lot also had dysentery slightly. My most forward lot at date of writing was made up last autumn with four driven lots. Ten days ago it was a treat to see how they worked; the bright yellow balls of pollen they toddled in with

surprised me, for the crocus was not then open, though now they are in full bloom.

I have no patience with experiences of "Wells" hives, as given on page 32 of March *Record*, when a bee-keeper coolly tells you that "on lifting the roof the bees would pour out from under the quilts on all sides." How such bee-keepers succeed with single hives is a wonder to me; of course they never can expect to with double ones. A bee-keeper I know started a "Wells" hive the season before last; he is a slovenly, careless man, one whose "fingers are all thumbs." He would show you beautiful sections quite spoilt by having used dirty old quilts above them, &c. Well, to my surprise, he succeeded that season, and had a big take from his "Wells," and admitted to me when I met him that "there was something in it," and that he should go in for it, but I find this last season he failed entirely. Another man who failed on attempting the system is one who keeps a large number of stocks, and has had a lot of experience, yet for the following reasons I consider him unfitted to succeed:—His apiary consists of home-made hives of all shapes, and crowded together so that in some places one can only just pass between the hives. His bees are very mixed, some of a most vicious nature, and, being a labourer, he spends nearly the whole day on a farm far away from his bees. I don't consider the "Wells" system will succeed except with advanced bee-keepers, yet I'm sorry to see the wrong ones starting it, *i.e.*, beginners, and those who haven't the slightest knowledge of the "science" of the craft.

I, like Mr. W. B. Webster, see my old smoker rusting on a shelf; for three seasons I have used the carbolised cloth, and I shall never go back to the smoker. I read your valuable B.B.J. and *Record* regularly, and have derived great benefit from them; the former I have bound for the last five years. I'm sorry to say so, but it seems to me you have some correspondents who write too much and too often; part may contain good advice, but it is just a repetition of what they said a week or so before, and a lot of it is repetition.

I have thoroughly enjoyed Mr. H. W. Brice's articles on queen-rearing, and shall look forward in the future for more. — WESTERN COUNTY, *March* 27.

DOES BEE-KEEPING PAY?

[2286]. In accordance with your kind invitation (B.B.J. of February 28, page 94), I now send you my letter on the question, "Does bee-keeping pay?" But I wish at the outset to disarm certain criticisms which I shall otherwise meet with from you and from your readers. I do not say for a moment that *no one* can make bee-keeping pay; the sellers of stocks, swarms, and queens, I dare say, do more than make both ends meet. But bee-keeping, pure and simple, for the production of honey and wax for the market, is the question; and again I should like to set aside the very large producers, the men with 100 hives and the like, who are miles above me, who have a far wider knowledge than I have. I wish to keep to my own level. The keepers of a few hives—ten or twenty—who are supposed, according to the current literature of the day, to supplement their yearly income, or their weekly wages, by a handsome profit from their hives; these, I presume, form the great majority of bee-keepers. For once, Messrs. Editors, let us forget all about the existence of foul brood, and suppose that there is no such thing; for if that came into one's apiary and a compulsory inspector, at a fortnight's notice, after it, not only any possible profit, but also one's capital, would disappear in *smoke*.

I cannot help thinking that in those roseate balance-sheets which sometimes appear in your journal, there is a slight bias in favour of the receipts against the expenditure. I myself have hitherto affirmed boldly that bee-keeping pays; but last year I set down *every* item of expenditure, *every* item of receipts, and this has entirely altered my opinion. You say at once, "Oh, you have chosen a bad year. I had just as much honey last year as I usually have. It is a curious thing that, try as I will, I cannot persuade my bees to produce more. I work for section honey, and what is the result? Ten hives, spring count; 278 saleable sections, and 48 lb. of run honey, sold for £13. 13s. 10d., and a second prize for run honey at the Cambridge Show, value 10s. = £14. 3s. 10d. in all.

Now for the expenditure. I am not going to trouble you with all the petty details, but if you want them at any time you can have them, down to the 2d. for the return of an "empty" from the station. The total I paid out was £12. 9s. 1d.; but I sold at cost price to neighbours, foundation, a hive, sections, frames, &c., to the amount of £1. 3s. 9d., bringing the expenditure down to £11. 5s. 4d. Ostensibly, this shows a profit of £2. 18s. 6d., and with that, I suppose, most men would sit down and say, "then bee-keeping pays." But there is absolutely nothing reckoned for the destruction of clothes by honey and paint, nor for the time spent over the hives, which, at union rates, ought not to be less than 4d. an hour; besides which, I invested at the outset a good £30 on my bees and bee appliances, and an annual £1 of interest is not much to demand for that outlay. Take out the interest, £1; the time, say ninety hours, £1. 10s., and the clothes, 10s., and where is your profit? You say, "The time is nothing." Do you know any harder and hotter work than taking sections from the hives at midsummer? I don't. But then, of course, you are above me; section clearers are the things. Yes, I know, but they cost money. Again, where is my invested £30? I should like to know where it is. I have got a whole heap of hives, a stack of section crates, an extractor, an old smoker, and

a few bees. What would they fetch to-morrow? Not a £5 note. If I had that £30 in Consols, there it might stop; but in bee-hives it won't stay.

Here is a heretic for you, Messrs. Editors! Burn him along with the bacilli. Alas! the worst of it all is that I rejoice in bee-keeping. But foreseeing the heap of rebuke that will be boldly pitched upon me, I shall reduce myself to even smaller dimensions than I possess already; I shrink down to the size of a *spore* (all your readers know by this time what a spore is), unsquashable, imperceptible, absolutely indestructible, and in that very small and safe condition I await with confidence the prolonged boiling or steaming or whatever other torture you and your readers may have in hand for me.—ROBERT S. ROUTH, *Longstock Vicarage, Stockbridge, March* 27.

[We don't quite know why our Reverend correspondent should look forward to even metaphorical "boiling, steaming, or whatever other torture," &c., from either readers or ourselves because of the relation of his interesting "tale of woe." The fact that he "rejoices in bee-keeping" covers a multitude of sins in bee-management, at least in our eyes. But by blending the pleasures of the craft with a little business thrift, we are sanguine as to his learning in time how to manage ten hives of bees, and harvest £13. 13s. 10d. worth of honey with a less expenditure than £11. 5s. 4d.! Otherwise, and in view of what appears in the above communication, it would seem that bee-keeping for profit is not our correspondent's forte.—EDS.]

BEE-KEEPERS' ASSOCIATION FOR SURREY.

[2287.] I am glad of the opportunity to refer to the above question raised by Mr. Brice in your last issue. I would suggest that he shall take the matter in hand and communicate with our old friend, Captain Campbell, who will, I feel sure, give him his cordial co-operation in reviving this once flourishing association. While lecturing with our van last year in Surrey, we had the pleasure of the gallant captain's company for one or two days, and I gathered that, while still retaining all his old ardour for the bees, he finds that advancing years prevent his continuing the active part of the work which is so necessary to the welfare of a county association. If therefore Mr. Brice will step in and devote his undoubted energies to the work, I feel sure he will have his reward in a large increase of members in the Surrey Bee-keepers' Association. My special reason for writing is that we have arranged to send our van on nearly two months' lecturing tour in Surrey in June and July, and if, in the meantime, the Surrey Bee-keepers' Association can be put on a working footing we shall be very pleased to press its claims for support upon the bee-keepers we come in contact with while travelling through a very large portion of that county. With this in view, if Mr. Brice or some other gentleman will take the matter up, I can promise the cordial co-operation of the Berks Bee-keepers' Association, whose efforts in the matter are with the intention of promoting rational and humane bee-keeping when and wherever they can. If this can be done, no time should be lost in calling a meeting and getting the association into working order.—A. D. WOODLEY, 17, *Market-place, Reading, March* 23.

BEES IN THE STORM.

[2288.] Though the severe winter has done much damage amongst the bees, I am afraid the storm of Sunday last, the 24th inst., in East Anglia has done more. When hundreds of huge trees were uprooted, it is almost a marvel that bee-hives were able to stand at all. My man informed me at three p.m. that my seven hives were roofless and the bees very savage. However, he managed to put the tops on and lay bricks on them. I need scarcely say that wraps and chaff cushions were many of them lost. No hive was overthrown fortunately, but I am sure that that is only owing to the half-sheltered position in which they were placed. The damage done to houses and parks is terrible. Huge coping tiles were lifted off the church roof and carried some 200 yards, slates being twirled about in the air like leaves. Scarcely a house has escaped loss of tiles or something. In future at the vernal equinox I mean to put bricks on my hives, and at the autumnal equinox, too.—W. S. TRAPP, *Marsham, near Norwich, March* 28.

"LANGDON'S NON-SWARMING DEVICE."

[2289.] On p. 242 of B.B.J. for June 22, 1893, appeared a description of the above, and although it reads very "glowing"—it's American—like yourself, I have wondered how it works out in practice. If British bee-keepers who have tried the plan will favour your readers with the result, I feel sure you will kindly give us the benefit of it through your columns, and I have no doubt it would greatly interest others besides.—S. F. CLUTTEN, *Southwold, Suffolk, March* 33.

BEES IN LINCOLNSHIRE.

EFFECTS OF THE RECENT STORM.

[2290.] A hard time it has been for the bees, owing to storms and frost. On the Saturday before Christmas we had a tremendous high wind here, in which roofs and quilts were carried off, though many of the hives were heavily weighted down with bricks. When I arrived home from market on that day, the garden was literally covered with dead and disabled bees. As the bees took

wing they were cut down by the wind never to rise again. On the first mild day, however, I got quilts and all put right again. About a fortnight ago I examined my hives, and found that some of the strongest stocks had several seams of dead bees and the greater part of the food gone, while two or three weak lots, strangely enough, had scarcely a dead bee about them. On March 24 we had a perfect cyclone, during which not only were hive covers carried off, but the hives were some of them turned over bodily, exposing the bees to the fury of the gale. It being impossible to get at and move them, they had to remain so for some time. How the brood will fare I cannot say. Some empty hives placed against a high wall had their roofs (heavy Cheshire ones) lifted ever the wall, and carried right across the field.—J. R. TRUSS, *Ufford Heath, Stamford, March* 26.

Echoes from the Hives.

Hill Top, West Bromwich, March 22.—Twenty of my twenty-one stocks are all doing well, the odd one being a nucleus of four frames in which the bees have perished. The others are carrying in pollen this day from crocus and from the pea-flour corner.—THOS. GRIFFITHS.

Queries and Replies.

[1248.] *Extracting Wax.*—To-day I have been extracting wax from last year's comb; that taken from old straw skeps came out well, and was good-looking wax; while that from my bar-frame hives, into which I put foundation, I cannot understand, as it will not set, but mixes with the water into which it is run when melted. Can you explain how it is? I am sending sample of foundation used, and what I have extracted from the comb.—J. MOORE, *Stone-Lea, Eastwood Vale, Rotherham, March* 29, 1895.

REPLY.—There must be some other reasons beyond those given for the difference in the quality of wax extracted. Bees-wax will not mix with water whether from frame-hives or skeps. What has mixed in the way stated will be pollen and refuse only, because any wax in the combs would not only float on the top of the water, but could be lifted off in a solid cake when cold. If we could see a sample of each comb before melting we might be able to explain further, but nothing can alter the above facts.

[1249.] *Combs Soiled through Dysentery.*—Along, I have no doubt, with other bee-keepers, I find myself with over a couple of dozen otherwise good combs, taken from hives which suffered a good deal from dysentery. They seem too good to melt down, and yet I do not like to give them to the bees again as they are. Can anything be done to get rid of the excessive soiling in such combs, which are only of last year's building?—A SUFFERER, *Norfolk, March* 30.

REPLY.—Had the combs been old and black with age, we should have advised melting down or else burning, but with such combs as the above we should cut away the face of the cells, and with them the marks of the fæces left on them. Even if pared down to the midrib, it would save having to refit with comb-foundation.

WEATHER REPORT FOR 1895.

WESTBOURNE, March, 1895.

Rainfall, 2·13in.	Sunshine, 159·3 hours
Heaviest fall, ·63 on 26th	Brightest Day, 18, 10·40
Rain fell on 16 days	Sunless days, 6
Above average, ·26	Below average, 7·7
Maximum Temperature, 60° on 21st	Mean Maximum, 47°
	Mean Minimum, 33·4°
Minimum Temperature 23° on 4th	Mean Temperature, 40·2°
	Maximum Barometer, 30·42° 15th
Minimum on Grass, 16° on 4th	Minimum Barometer, 28·78° on 28th
Frosty Nights, 13	

L. B. BIRKETT.

REVIEWS OF CONTINENTAL BEE JOURNALS.

BY J. DENNLER.

(*Continued from page* 129.)

A Foolish Regulation.—The same journal mentions the extraordinary decree which has just been published by the administrator of one of the communes in the neighbourhood of Algiers. Here are some extracts from the several clauses:—

Art. 1.—No proprietor or occupier of a garden or enclosure in the district of Thiers, &c., may establish and keep more than one hive, which must be placed at not less than 25 mètres from the highways, public paths, or neighbouring properties.

Art. 2.—Professional bee-keepers in these districts, owning more than three hives, shall not place an apiary nearer than 100 mètres to any dwelling, cemetery, or public road.

Art. 3.—No existing hive or apiary may be kept, and no new hive or apiary started, without the special permission of the municipal administration having determined the conditions on which they may be kept.

This regulation is absurd, says the *Bulletin de la Société du Bassin de la Meuse*, and suppresses apiculture completely in the commune. It will, without doubt, be annulled by a superior authority, and the apiphobe (dreader of bees) who has passed the decree will be placed in the first rank as a bee-enemy, even before the bear, &c.

New Bee Publications: Die Natürlichen Grundlagen der Bienenthätigkeit, by Fred.

Durr, Rector at Breslau. 1st vol. Published by C. A. Schwetschke & Sons, Brunswick.

Bienennährpflanzen.—Describing bee-plants, their structure and use to the forester, farmer, gardener, and bee-keeper, with instructions for improving bee-pasturage, by Herman Melzer. Published by J. Neumann, Neudamm.

Der Thuringer Zwilling.—3rd edition, by F. Gerstung, Pastor of Osmanstedt. Price 60 pfennigs (6½d).

Das Grundsetz der Brut-und-Volksentwicklung.—2nd edition, by the same author.

L'Avocat de l'Apiculteur.—By M. F. F. Bachan, magistrate and councillor-general of Dordogne, at Pessac-sur-Dordogne. Published at the office of the *Apiculteur* in Paris. This pamphlet is not so large as one's hand, but the author, with remarkable precision and talent, has introduced into it all the laws, with comments and the various decisions of the Courts, with respect to apiculture. It is evident that, with the progress of bee-keeping, the three clauses of the French code published in 1889 are insufficient. M. Bachan thinks he has been of use in putting in the hands of French bee-keepers a work they have long needed. To understand how to manage an apiary may be easy, but to settle the legal points which may arise with neighbours or strangers is indispensable. The *Avocat de l'Apiculteur* is the apifuge which we must all have at all times in our hands. Price 1 franc.

Le Miel et son Usage. By J. Dennler. Seventh edition, revised and corrected. Price 20 pfennigs (2½d.) (Silver medal at the Universal Exhibition, Antwerp.)—This is what the *Bulletin de la Soc. d'Apic. de la Meuse* says with regard to this pamphlet on honey and its uses :—"You complain, brother bee-keepers, of not being able to get rid of your honey. Well, read M. Dennler's pamphlet, and your trouble will vanish as by enchantment, and if you still complain it will be that you have not enough honey for your own use, and that of your customers, who have become insatiable. Honey can be used in so many different culinary preparations, and has so many virtues, that one is surprised that it is not more sought after. It is for honey producers to popularise its use, and M. Dennler shows us how to do it. Distributed gratuitously among our friends and customers, they will be pleased at our generosity, and will then read it with growing interest, and at last become purchasers of honey with which so many things beneficial to health may be made."

La Cire des Abeilles.—Analysis and Adulteration of Beeswax, by A. and P. Buisine. Published by Gauthier-Villars, Paris.—After having described with much detail the physical and chemical properties of wax, and the characteristic reaction, both qualitative and quantitative, with certain re-agents, the authors study the action of the same re-agents on the different substances which serve usually as adulterants of beeswax. These are Japan wax, China wax, vegetable wax, Carnouba wax, mineral wax, paraffin, grease, whale fat, stearic acid, and resin. All these substances have certain characteristics in common with beeswax, and adulteration is extremely difficult to detect. Messrs. Buisine have determined seven different reactions, and have thus devised a method of analysis, the details of which will make it evident how extremely difficult it is for a person not acquainted with current scientific methods to determine for certain if wax is adulterated—unless it is done in a very rough manner. Thus wax merchants and unscrupulous manufacturers of comb foundation have hitherto had much their own way, and have been able to sell at the high price of pure wax, mixtures which sometimes have no wax in them but in name only. There are even manufacturers who have taken patents for compositions entirely of artificial wax. Messrs. Buisine, by their scientific researches and the publication of this work, have rendered a great service to bee-keepers and honest manufacturers, who now have the means of analysis at hand ; or, in any case, are able to place the analysis in the hands of competent scientific persons to ascertain if the wax or comb foundation supplied to them as pure be really so.

TRADE CATALOGUES RECEIVED.

Geo. Neighbour & Sons, 127, *High Holborn, London.* 70 pp. The above very complete and well-illustrated price list for 1895 is now issued, and includes illustrations of hives at prices varying from 10s. 6d. to £3, together with a full line of apiarian appliances of every description, all of the latest or up-to-date construction. We are glad to find this very old-established business for bee appliances still being carried on, and the fact of the manufacturing department being under the management of Mr. James Lee is a sufficient guarantee for excellence of workmanship, which has so long been the distinguishing characteristic of the firm.

F. Armstrong, Longfield, Kent. 10 pp. Though only a small list, this embraces all needful requirements for the apiary.

T. Lanaway & Sons, 26, *Station-road, Redhill.* 16pp. We notice that Messrs. Lanaway make a special feature of dove-tailed hives for sending out in the flat, to save the risk of damage in transit incurred when "built-up" hives are sent by rail.

Rev. C. Brereton, Pulborough, Sussex. Price list of queens, stocks, swarms, and nuclei. Mr. Brereton is now sending out the above for the eighth successive season.

J. S. Greenhill, 80, *Graham-road, Wimbledon.*—A short but very concise list of useful bee-goods. Among the illustrations of hives

are several process blocks taken from direct photographs.

The A. I. Root Company, Medina, Ohio, U.S.A., and W. T. Falconer, Manufacturing Company, Jamestown, N.Y.—The above firms send their respective catalogues for 1895, and they are, if anything, more comprehensive than before. Manufacturers and dealers will find in them much useful information. We have a few spare copies of the first-named list by us, and will forward one on receipt of ½d. stamp with name, &c.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

A NOVICE (Southgate).—There is certainly no method of removing honey from combs without damaging the cells other than by means of an extractor, which latter may be had at prices varying from 7s. 6d. upwards.

KENELM GOSS.—Seeing that the salient points of the information conveyed in cutting sent have been gathered from what has already appeared in our pages, there is no need for us to repeat it. What surprises us, however, is the way in which the past and present efforts of the B.B.K.A. in the direction indicated are ignored by the gentleman interviewed, who cannot be ignorant of what has been done.

OWEN BROWNING (King's Somborne).—*Giving Pea-flour.*—If "bees are gathering natural pollen quite fast," it is worse than useless to supply them with the artificial substitute in shape of pea-flour.

J. W. P. MONROE (Morley).—We should by all means furnish the new hives with swarms and new combs rather than transfer the bees and old combs from skeps into them. Refer to what has been said in our pages on "self-hivers" if you are unable to see to your swarms.

NEW SUBSCRIBER (Bourton-on-Water).—1. See reply to "Owen Browning. 2. The Hon. Sec. of the Bristol and South Glos. B.K.A. is Mr. Jas. Brown, 42, Baldwin-street, Bristol.

H. M. S. (Devon).—We cannot publish the statement regarding the reputed first-class expert unless the fact was properly verified. Nor can we think that any one holding a certificate would act as stated.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

BEES FOR SALE.—Apply, VICAR, Old Bramhope, Leeds. G 46

SEVERAL Good STOCKS, with bar-frame Hives, for SALE. Apply, CHITTENDEN, Lydd, Kent.

WANTED to EXCHANGE, 3 Pairs of Homer Pigeons for a Hive of Bees. Address, G. H. WOOD, Great Kendale, Driffield, Yorks. G 44

EXTRACTOR WANTED, 2 or 3-frame. State size, all particulars, and price. L. BAILEY, 55, Park-road, Leek, Staffs. G 45

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BREERETON, Pulborough, Sussex. 109

FOR SALE.—1 cwt. of EXTRACTED CLOVER HONEY. Sample, 3d. ED. LONG, Cottenham, Cambs. G 34

LACE PAPER for GLAZING SECTIONS. Three neat patterns, 100 strips, 22 inches long, 8d., post free, 500, 2s. 9d., post free. W. WOODLEY, Beedon, Newbury.

FOR SALE, EXTRACTOR, 14s. (cost 21s.) Two "Wells" Hives 14s. and 11s. "Buncefield" Hive, 5s., and Standard 10-frame Hive, 5s. Apply, H. R. OUTRAM, 80, Croydon-road, Beckenham, Kent. G 49

STRONG HEALTHY STOCKS of English BEES for SALE, cheap, in good bar-frame hives. Young Queens and grand working strains. Particulars on application. MASON, Nunclose, Armathwaite, Cumberland. G 48

SPECIAL COMBINATION HIVES, new, with 10 Standard Frames; room for 15. Price 12s., worth double. Wide-shouldered Frames, 1s. 9d. doz. in the flat. GEO. WEBB, Hive Maker, 502, West Green-road, London, N. G 47

TWELVE of the BEST HONEY-PRODUCING PLANTS:—Sweet Alyssum, Aliabis Alpina, Aubretia, Balm, Barlonia Aurea, Borage, Cornflower, Horehound, Limanthes, Marjoram, Mignonette, Sweet Scabious. Price 3d. per large packet, or 2s. 6d. for the dozen. Cash with order. THOMAS WALMESLEY, Jun., Bee Appliance Stores, Lichfield, Staffs.

BEEKEEPERS in LANCASHIRE and CHESHIRE and surrounding Districts please note that the
CENTRAL SUPPLY STORES
for all BEE REQUISITES is in LIVERPOOL at the OLD SPOT, 50, GREAT CHARLOTTE STREET, GEORGE ROSE. Why pay carriage from long distances, when you can buy as cheap and good locally, and *have your orders promptly attended to?* Catalogues gratis.

Sow now 14 varieties of Bee Flowers, price 1s. Full directions to each; easy to grow. Cash with order. Buyers of big quantities of SECTIONS, JARS, &c., please write for quotations per 1,000 and per 5 gross.
Wholesale and Retail.

BLAKEY'S BEE FEEDER.

Made of wood, zinc, and glass. Holds over 1 lb. of syrup, and can be filled without removing from hive, and bees may be observed as they take the food without escaping. Price 6d. each. Postage of one costs 4½d., two 6d., four 9d., six 1s. 1½d. J. M. BALMBRA, 2, East-parade, Alnwick, Northumberland. G 33

TO BEE-KEEPERS AND SECRETARIES OF COUNTY ASSOCIATIONS.

GEO. J. BULLER, Triangle, Hitchen, Herts,
(Many years Foreman to Mr. T. B. Blow,)
Is prepared to undertake the management of Bees and general expert work, by the day or season.
For terms, apply as above.
(DEALER IN BEE-KEEPING APPLIANCES.)

AMERICAN SECTIONS.

TO DEALERS.

All SECTIONS are now landed, and a portion of the "Falcons" stored at Liverpool; "Roots" at London.
Terms for both, moderate. Apply to—
WM. BOXWELL, Patrickswell, Limerick. 107

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

Examinations.—Attention is called to the following arrangements: The annual first-class examination will take place in London on Thursday, May 9. Either first or second class certificates may be competed for at this examination, and it is open to all those who hold a third class certificate. A special examination in the nature and treatment of foul brood will be held on Saturday, May 11. Entries for both these examinations must be sent to the secretary, J. Huckle, King's Langley, Herts, on or before April 20.

THE CHAPMAN HONEY PLANT.

ECHINOPS SPHÆROCEPHALUS.

We have just received from Mr. G. W. Davis, Crayford, Kent, a bag of seed of the above large enough to supply the great bundle of stamped envelopes we had on hand, and leave sufficient to fill a couple of hundred more packets. Mr. Quartermain, whose letter appears on another page, sends some seed, and our well-known correspondent, Mr. G. Wells, also offers to send free seeds of the plant if needed. There is no need, therefore, for any one to remain short.

So great has been the interest aroused on the subject among our readers that we have thought it well to reprint from a former number of the B.J. full particulars regarding the plant, together with an illustration of it in bloom.

"This plant, which is just now all the rage amongst American bee-keepers, and has been by them called the Chapman honey plant, owing to it having been introduced by Mr. Chapman for this purpose, is a native of Southern Europe and Western Asia. The name is derived from *echinos*, hedgehog, and *ops*, appearance, referring to the globular and spiny character of the flower. The English name is Great Globe-thistle. It belongs to the order *Compositæ*, composite flowers. The plant is bushy, with stems from four to six feet, and alternate leaves, green and slightly hairy above, whitish and downy beneath. They are large, pinnatifid (*i.e.*, divided half-way to the midrib in segments in a feathery manner), sinuate (with a curved margin), with unequal segments, and slightly spinose (hard-pointed lobes). The stems are erect, branched, and streaked with longitudinal lines. The flowers are globular, of a very pale blue, and the plant continues in bloom from July to September. The lowest florets expand first, and the others continue to do so in succession, so that each flower is a considerable time before it is fully blown. It is commonly grown as an ornamental garden plant, and at a distance resembles a gigantic and handsome thistle. It grows without care, and almost any waste place will do, although it thrives better in a light calcareous soil. It is visited by the honey-bee as well as by humble bees and wasps. We have grown it as an ornamental plant for some years, and it is easily cultivated in shrubberies, and, where hoeing is frequent, as in well-ordered gardens, can be easily kept within bounds. The seed can be sown from April to June in a bed, and then pricked out in October, from 2 feet to 2 feet 6 inches apart. When the plants are fully established they can be propagated by division of the roots in the spring. It is a perennial and is sometimes called Echinanthus."

"Another perennial plant, much handsomer, belonging to the same family, is *Echinops ritro* (Small Globe-thistle), which grows only from two to three feet high, and has smaller heads of flowers of a deep azure blue, with a metallic lustre."

CAMBS. AND ISLE OF ELY B.K.A.

We are very pleased to learn that the above Association was *re*-established at a meeting held at Cambridge on the 23rd ult. Dr. A. Peckover, Lord-Lieutenant of the County, was appointed president, and the following noblemen and gentlemen consented to act as vice-presidents for the year:—Viscount Hampden, the Earl of Ellesmere, Sir George Newnes, Bart., M.P., R. U. Penrose Fitzgerald, Esq., M.P., Hugh Hoare, Esq., M.P., Hon. A.

Brand, M.P., Professor Jebb, M.P., H. McCalmont, Esq., W. H. Hall, Esq., R. Jennyns, Esq., C. R. W. Adeane, Esq., M. Thorpe, Esq., C. Dunn Gardner, Esq., C. Hammond, Esq., Rev. Dr. Lumly, Rev. C. Townley, Rev. J. B. Dalison; hon. treasurer, E. J. Mortlock, Esq., Cambridge; hon. sec., Mr. C. N. White, Somersham, St. Ives.

In a circular addressed to residents in the county, it is stated that among the objects of the Association at starting are "the extension of modern systems of bee-culture and the extinction of the bee disease, *Foul Brood*, the main obstacle to the progress of one of the most interesting and not the least profitable of rural industries."

It is also proposed to hold an exhibition of bees, hives, and honey, in connection with the Agricultural Society's Show at Ely.

All communications as to membership, &c., to be addressed to the hon. sec. as above.

HEREFORDSHIRE B.K.A.

We have received a copy of the report and balance-sheet for 1894 of the above Association, from which we gather that the annual general meeting took place on February 7 last, the Rev. F. S. Stooke-Vaughan in the chair. The balance-sheet and the secretaries and experts' reports were received and adopted. All the officers were re-elected with the exception of Mr. W. Tomkins being substituted for Mr. W. Parlby on the committee, and Messrs. J. H. Wootton and W. Branston were elected local secs. for the Weobly and Bredwardine districts.

The bee-van of the Association has completed its third tour of the county with very satisfactory results; the cottager bee-keepers in all parts visited, taking a good deal of interest in the lectures, demonstrations, and wayside instructions offered them. It is matter for regret that the financial position of the Association is not a little strained, owing to dilatoriness in the payment of members' subscriptions. This in a great measure appears to arise from an impression that the County Council grant is expended in general expenses connected with the ordinary Association work. As a matter of fact, however, the "grant" is rather a financial burden than otherwise, seeing that every penny of it is expended on the bee-van tour, and instead of diminishing it increases the general expense of the ordinary work amongst members.

OXFORDSHIRE B.K.A.

The annual meeting of the members of this Association was held on March 27, at the Wilberforce Temperance Hotel, Oxford. The Rev. R. Hutchinson presided, and among those present were Messrs. Hancox, Perry, Salmon, Hughes, Slatter, H. M. Turner, Anstey, Grant, Reynolds, S. Hancox, F. F. Turner, &c.

According to the annual report, the membership, which last year stood at 151, has now risen to 165, the increase being mainly due to the appeal made to local secretaries in 1893 to obtain new subscribers. After dealing with the Annual Show of 1894, and the expert's tour, the report goes on to say:—The committee are sorry to say that foul brood has shown itself in the northern and southern districts. The usual remedies have been applied, and the fullest instructions given by the experts. It is hoped if any member has the slightest suspicion of an affected colony he will at once communicate to the secretary. The financial position of the Society is rather more satisfactory, as receipts and expenses will show a slight balance on the year, but, having to take over the deficit of 1893, leaves us still this year with a deficit of £3. 12s. 8d.

The report and balance-sheet were adopted.

The Hon. Mrs. Brassey was unanimously elected president.

The following, vice-presidents:—Mr. G. H. Morrell, Mrs. Herbert Morrell, Mr. G. R. Benson, M.P., Hon. Mrs. Brassey, Mr. J. Mason, Colonel Blunt, Mrs. Baskerville, Mr. E. S. Hamersley, the Bishop of Oxford, the Duke of Marlborough, Rev. R. Hutchinson, Colonel Ommaney, Mr. R. T. Hermon Hodge, and Mr. Tubb, with Mr. E. F. Turner as hon. secretary and treasurer.

Messrs. Salmon and Beeson were selected auditors, and the committee as follows:—Messrs. E. Goddard, Slatter, C. B. Anstey, J. Salmon, W. Beeson, F. Stamp, W. I. Reynolds, C. Heath, and H. M. Turner.

Mr. Hancox, of Sandford St. Martin, was appointed expert for the year, and was directed to commence the spring tour in April.

It was decided that the annual exhibition of honey should take place in Oxford in August.

The Secretary announced that Mr. Blow had given an extractor and a bar-frame hive as prizes for the annual show. Six sections of honey in Blow's bottles, first prize, an extractor; 12 lb. honey in Blow's 1-lb. bottles, first prize, a bar-frame hive.

The usual votes of thanks were passed to the retiring officers and the Rev. R. Hutchinson for presiding.

FRUIT-GROWING AND BEE-KEEPING IN CORNWALL.

The Callington Technical Instruction Committee on Monday, the 1st inst., provided another useful series of practical demonstrations for the benefit of the public. Some time since the committee planted a large number of apple and plum-trees in the field they have set apart for experiments, and on Monday morning Mr. W. Cundy, of Callington, a practical gardener, gave a series of lessons on grafting these stocks, the work being watched with interest and attention. In

the afternoon a number of persons assembled at the field to witness a demonstration in bee-keeping by Mr. J. Brown, of Polyphant, who is well known in the district as a most successful manipulator of bees. Mr. Brown gave a short explanatory address, and exhibited the bar-frame hives which the committee keep in the field, and which were found to be in excellent condition. Especially interesting were his experiments in transferring the bees and comb from the old-fashioned straw hives to the modern bar-frame and section hives, the lecturer's skilful management being a valuable object-lesson to the spectators. Among those present during the day were Mr. J. W. Lawry, C.C., chairman of the committee; Mr. S. P. Rattenbury, C.C., and Mrs. Rattenbury, Dr. Davis, Messrs. N. Coad, S. S. Davey, E. Snell, W. Peace (local secretary), and J. Gill (county organising secretary), together with several young farmers of the district, who manifested considerable interest in both the grafting and the bee-keeping experiments. In the evening, at the Public Hall, a highly-instructive and very interesting lecture was given by Mr. Brown on "Modern Bee-keeping," his remarks being illustrated by diagrams of bee-life. A profitable discussion, which followed, brought out many details of practical value to those who keep bees for the market; and at the close Mr. Brown was heartily thanked. The chair was occupied by Mr. J. W. Lawry.—(*Communicated.*)

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of March, 1895, was £2,975.—*From a return furnished by the Statistical Office, H.M. Customs.*

BEE-KEEPING IN PALESTINE.

The following extracts from the *Morning Star* with reference to the present settlement of Jews in Palestine will interest some of our readers:—

"PRODUCTS OF PALESTINE.—We understand that large consignments of wine and honey are on their way to England from Palestine. The honey is the 'Orange Blossom honey,' from Joppa, and the wine comes from the Rishon le Zion colony. The wine, it is believed, will be used by ardent 'Zionites' for the Lord's Supper.

"Bee-hives at Wadi Harim, another Jewish colony, have produced a very good quantity of honey. Ninety-two hives produced in two gatherings 678 rotels of honey, or about 3,729 lb., reckoning 5½ lb. to the rotel. Will some reader who understands bees inform us whether this is good or bad or indifferent?"

Forty-one and a half pounds per hive is not at all a bad average, although we have no doubt that with modern hives and a knowledge how to use them, very much better results could be shown.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEES AND THEIR TEMPER.

[2291.] I have read with much interest Mr. Grimshaw's article on "Bees and their Temper" [2274] page 122, and quite agree with him that the influence of the nurses on bee character is a point requiring investigation; yet I venture to think that his views go further than the facts of the case warrant. It will, I think, be generally admitted by biologists that the characteristics of an individual depend chiefly on two points—1st, inherited qualities — those derived from parentage; and 2nd, on external conditions which, in a greater or less degree, tend to produce various modifications. Let us, then, admit that the characteristics of a bee will vary with the character of the food-supply, it by no means follows that bad-tempered nurses will necessarily produce bad-tempered bees; irritation may alter the character of the milk secretion, but not necessarily in such a way that when given as food it will produce similar irritation in the recipient. In the case of the offspring there is continuity of all life with the all life of the parents, and theory and universal experience both agree that the characteristics of the parent reappear in the offspring. But in the case of foster-mothers there is not the same continuity of all life, since the food has to be digested and its all life destroyed before it is assimilated by the individual. To take an analogous case in mammals; there is no evidence that a baby fed upon the milk of the cow or the goat thereby acquires the characteristics of either of these animals, though abundant evidence that the quality of the milk supplied may affect the health and development of the child. Mr. Grimshaw says:—"You must remember that the laying queen owes its position as a mother to the food fed to it in its babyhood out of

the system of the worker bee; let that food be stinted in quantity at a certain time and the laying mother of the hive had been a barren worker." No better argument could have been advanced against the theory that the worker transmits its own characteristics through the food stuff it supplies.

The worker possesses a highly developed food-secreting gland, and practically a merely rudimentary ovary; if then the food it supplies tends to transmit its own qualities, we should expect that the royal larvæ, which are supplied in greatest amount with the food secretion, should most resemble the foster-mother. The reverse is the case, a large supply of the food-secretion prevents the development of the very gland which supplies that secretion and causes the enormous development of other organs which are merely rudimentary in the foster-mother.

If temper could be transmitted by the nurses, then surely all other qualities would also be transmitted, and some of these—*e.g*, colour, size, &c.—would be more readily capable of direct measurement, but we find no evidence of this; in fact, quite the contrary. Even if we admit that qualities can be transmitted by the nursing bees (which I do not), still bad temper is about the last quality I should expect to find transmitted. We are told that "excessive manipulation may perhaps cause bad temper in some particular hive." Granted that it does so, still in the summer-time, when alone excessive manipulation and requeening experiments can be practised, the nursing is confined entirely to the young bees, and I have never yet seen young nursing bees put into a bad temper by any means either of manipulation or non-manipulation, and I question whether any beekeeper ever has. It is the old bees which are so apt to use their stings, and these do practically no nursing. If temper were transmitted by the nurses, then a very interesting course of experiments would be open to us. We might take eggs of a race known to be irascible, *e.g.*, Cyprians, and rear them in a hive of tame bees, *e.g.*, Carniolans, and get bees of Cyprian blood possessing the quiet characteristics of the Carniolan race. Few bee-keepers, however, will admit the possibility of such a result. I bring these points forward because I think in the present state of our knowledge it would be a great mistake to destroy a hive of bad-tempered but possibly hard-working bees, unless we have much better grounds for believing the theory here advocated. The method advocated at the end of the article seems to me even to be contradictory to the theory advanced. We are told "this can only be done by removing the frames of brood, &c., to other hives." But, on the supposition that the brood inherits the qualities of the nurse bees then we must throw away or destroy the brood as well, especially sealed brood which has already imbibed all its qualities from the feeding nurses; in fact, it would only be safe to preserve the eggs—and a few frames of eggs are practically hardly worth saving in the summer time.—M. C. CLUTTERBUCK, *Springfield-road, Brighton, April* 3.

BEE JOTTINGS

FROM HIGHWAYS AND BY-PATHS.

[2292.] First, and by way of introduction, let me begin with a confession, — I am by nature of an inquisitive turn of mind, and so averse to taking anything for granted without inquiry, or accepting things as they are because we are told to do so, that I go poking into and prying round and about them in order to test for myself whether they will "work out" quite as we are told, or not. At the same time, I would resent being classed along with those very objectionable individuals who are perpetually grumbling at everything and everybody. In my case, it amounts to little beyond an extreme unwillingness to take anything for granted without making the slightest effort to know *why*. But I have acquired a habit of filling up every spare moment of time—after completing the daily task by which the family "cupboard" is filled —either by reading or some change of occupation other than my diurnal desk-work; and this habit, together with an almost morbid dislike to being unoccupied, makes the quantity of printed matter—bee literature especially—I get through something of "a caution." I read most of the world's bee journals which are printed in English, and almost whine because of my inability to "get at" the contents of those of all other nations as our senior editor so readily can. To me a a good bee-book or journal, and my pipe, are —well, all bee-keeping enthusiasts *who smoke* know what! Anyhow, in my case, the small hours of the A.M. are perhaps too often reached before Morpheus gets hold of me.

This, however, brings me to the point I am driving at. As already said, I read a great deal about bees and their ways, not superficially, but with the sole object of picking up what is good in them, and making a mental note of it for future use. Now it has occurred to me that the results of my reading and thinking might possess some interest for such of your readers as have only their weekly BEE JOURNAL to fall back upon for what is said in the bee world. If our editors agree with me, and will grant the necessary space, I purpose sending from time to time such jottings as are enclosed for the benefit of "all whom it may concern," asking my readers to bear in mind that any personal opinions I may offer are to be taken for what they are worth and no more.

The Laying Capacity of Queens.—DR. C. C. Miller, in the *American Bee Journal*, discussing the above query, says:—"Some queens might keep up to the mark (3,000 eggs per day), but, being cramped for room, must limit the number." In these conclusions I entirely

concur. Let us take our 10-framed hive ("Standard" frames, of course), as a test, that being the size most in use for brood-chambers; the comb in each frame contains slightly under 5,000 cells, of which we will assume that 3,700 are available for brood-rearing. This is rather a high estimate, because, unless honey is stored in the upper portion of the comb, the queen would lay no eggs therein, and, as the brood-nest diverges from the centre—especially in the honey-season, when queens breed fastest—so will the frames be found to be more fully filled with honey and pollen; but we will say 3,700 cells notwithstanding, and eight times this number (the two outer frames must be excluded from the calculation, as queens very rarely lay eggs in them), gives a total of available cells as 30,000. Now if a queen lays 3,000 eggs for twenty-one days we get a total of 63,000 eggs. The number of frames may be reckoned as nine (not ten), because the *outside* cells of the two outer combs are rarely occupied with brood, and these two outsides make one full comb. We thus get 33,750. This clearly requires consideration, and as Dr. M. further says: "There is a serious side to the matter; if, as some one has suggested, the repression of laying has an injurious effect on the queen herself." Dr. M. also adds, "more light is wanted." To me it appears that more room is wanted also.

Something to do at Night.—"During the first part of the fruit-blossom when bees are gathering their first honey, they are eager for something to do inside the hive at night; hence they will repair all the mutilated combs, fasten some to frames, &c., much more readily than at any other time."—G. M. DOOLITTLE, in *Gleanings*.

This little wrinkle might, to my mind, be taken advantage of in several ways which readily suggest themselves.

Paraffin Adulteration of Wax.—"A simple test for the above," says *Gleanings*, "though not entirely reliable, is to take a small piece of the suspected wax and chew it. If it crumbles up within seven or eight minutes in the mouth, it is probably pure wax. If paraffin is mixed with it you can chew it longer without its crumbling, and it will not crumble quite so much."

American Markets, March 14.—"Demand for extracted honey good beeswax continues scarce; markets are bare, and prices are stiffening. Another advance in price of foundation contemplated."—*Gleanings*.

Honey Soap "contains no honey whatever," says *Deutsche Imker*. Dr. Miller says:—"If you want something that will keep your skin soft and free from chaps, make it yourself. Take one pound common hard soap, add rain-water; place the earthen dish with the soap in a water-bath, and boil till dissolved. Then add an ounce of honey, and continue boiling till the water evaporates."—*Gleanings*.

Any use to which honey can be put is helpful, in fact its uses are legion.

Mice and Honey.—In *The Bee-Keepers Review* (Am.) Mr. Hasty says:—"I have kept piles of sections in a mouse-infested garret, with almost no damage," and that he "once had some young mice get into a deep box from whence they could not escape. A few sections of honey were in that box. The mice perished apparently from starvation, without having eaten much of the honey."

I have had mice eat holes in combs before now, but whether pollen or honey was the inducement I cannot just now say. I fancied at the time it was the honey.

Soft Candy from an American point of view.—Criticising an "editorial reply" in the BRITISH BEE JOURNAL, an American "authority" asks, "Why soft?" If I might be allowed to answer the critic in question, I should reply—because hard candy, given under the circumstances dealt with, would have been of about as much use to the bees as a piece of brick! The gentleman referred to, who conducts the "Notes and Comments" column in the *American Bee Journal*, further says:—

"I am at a loss to know why so many people have an idea that candy must be *soft* when given to the bees for winter food. I have used sugar-cakes made out of granulated sugar for a number of years, and I make the cakes as hard as I can make them, and put nothing in the mixture but sugar and water. The harder it is the better it will be. The bees will look after the softening of it all right, if it is put directly over the cluster. When it is put on too soft, it is apt to run down and smear the bees."

I need hardly tell British bee-keepers that *our* soft candy is not "apt to run down and smear the bees." Moreover, if the bees of our good friends across can take candy in winter in cakes "as hard as I can make them," our bees can't, and if our Editors were to advise giving a colony of bees—starving for want of food in the month of February—a cake of such candy, I for one would begin to feel my confidence in their bee-wisdom not a little shaken.—H. W. BRICE, *Thornton Heath*.

DISINFECTING HIVES.

[2293.] I was greatly interested in the remarks about foul brood in the late numbers of the BRITISH BEE JOURNAL. I have been fighting foul brood the last five or six years. I find naphthaline and naphthol beta the best cure so far, but each October I generally find a few suspicious cells in a few of the hives, so I think some of the spores must remain in or about them, seeing that, as a rule, I sulphur the hives and bees, as well as everything about them, two or three times, and burn the bees and combs after the first sulphuring.

If I am not troubling you too much, I would like your opinion on the following plan, which I have thought may be a good one, and though a little troublesome, not very expensive—that is, placing the inside of the hive, or

parts of hive, and also any crates, frames, &c., for five minutes, more or less, in a boiling solution of say 1 lb. or 2 lb. of pearl-ash (some call it black or caustic potash) to 1 gallon of water. The pearl-ash will remove any wax, &c., but do you know if it will destroy the spores of foul brood? Of course, great care must be taken, as the pearl-ash will burn the hands, and also destroy any animal or woollen substances. The outer casings of the hives to be repainted.

I make all my own hives; the inside is separate from the outer, with air all round between them.—R. W. Topp, R.N., *Riverstown, Co. Cork.*

[Caustic potash, used in the manner described, would no doubt destroy the foul-brood spores very effectually, which sulphuring alone will not. But it is a question whether five or ten minutes' boiling in clear water would not as effectively destroy all possibility of the spores germinating.—Eds.]

COMB FOUNDATION.

[2294.] The following extract from an article on "Bee Ranching" in California appears in that widely-read magazine, *Chambers' Journal*, for January, 1895 :—

"Of late years many innovations have been introduced which would cause the famous Roman (Virgil) to stare in surprise, if he could rise from his ashes. The foundation on which the combs are built are not made of bees-wax at all. The services of these insects have been dispensed with entirely in the manufacture of this article, which is produced from paraffin, and stamped with the form of the cells, forming as it were a plan of operations which the intelligent bees at once commence to carry out, building up the cells on the foundation thus supplied, and of course effecting a considerable saving of bee-labour. Even the cells have been produced by artificial means, and being filled with a mixture of glucose and sugar, can be made to resemble the genuine article in such a manner as almost to defy detection," &c., and further on: "It is a fact, however, that many people prefer honey to which sugar has been added, just as most people in England prefer coffee when mixed with chicory, instead of the pure article."

As I am a little sceptical on the point that paraffin foundation-sheets are used in some countries and form a good substitute for that made from bees-wax, I shall be glad to have your opinion on the matter. I am afraid the author of the article in question has been drawing on his imagination, and, if so, I think such misleading articles should not be allowed to pass without contradiction.—J. H.

[The above only serves to show how readily, and no doubt inadvertently, even high-class journals give currency to utterly unreliable and misleading statements on technical subjects. To talk of "the foundation on which combs are built, not being made of bees-wax at all," but of "an article produced from paraffin and stamped in the form of cells," is just to give utterance to so much rubbish. Paraffin wax melts at a temperature of 112° or 114°, and, even supposing that bees would accept comb-foundation made from it—which any bee-keeper of experience knows they would not—the inevitable result would be a collapse of the foundation and a tumbling of the bees, and it in a heap on the floorboard! Pure bees-wax melts at about 146° to 150°, and so necessary is it for manufacturers to make even pure bees-wax foundation bear as great a strain as possible without sagging or breaking down, that bees-wax from particular quarters of the world noted for its toughness is blended along with other kinds in order to increase its bearing strain. We do not pretend to say that all foundation is made from pure bees-wax only, but when any other wax is used it must be in such small quantities as not to cause any such collapse as would inevitably happen to foundation made from paraffin wax.

On the second point of artificially-produced comb, filled with a mixture of glucose and sugar, being made to resemble the genuine article, &c., we would refer the writer to the fact that, after some controversy on this subject in America a few years ago, Mr. A. I. Root, editor of *Gleanings*, deposited a sum of 1,000 dollars, which sum was to be handed over to the man who produced a sample of artificial comb, filled as stated with artificial honey, manufactured and filled without the help of bees. This offer remained open for one or two years, yet the money was never claimed, nor was any attempt made to claim it.—Eds.]

BEE NOTES FROM SUSSEX.

[2295.] Eighteen days have passed since my last report (2282, page 126), and I am very sorry I am still unable to give a more favourable account of bee prospects. There were a few warm days during the last fortnight, and the bees flew more freely; but cold and wet weather is again the order of the day. Saturday (April 6) we had a violent S.W. gale; Sunday was a succession of heavy hailstorms. The glass is now going up steadily, after a sudden depression, so we will hope for the best. But so far it has been impossible to overhaul any hive with safety.

The accounts of the recent gale in East Anglia are surprising. We certainly had nothing so severe here, and it must have been comparatively local.

The bitterly cold winds have played havoc with the crocuses, and I am afraid the bees obtained little enough from them, although they tried hard enough—poor things. For some reason, unknown to myself, none of my bulbs are doing nearly so well this year as

previously. I have scarcely half the usual number of blooms from permanent clusters of daffodils, &c. Is this the experience of others, I wonder?

Can any one also tell me if the catkins of the aspen—"pussies" we used to call them when children—furnish pollen? I have two overhanging my garden; and chestnuts, and various kinds of firs, elders, and black and whitethorns, are close at hand. The fact is, I am trying to puzzle out whence, and when, my bees are likely to get their first supplies. I can watch their proceedings with various flowers, but it is not practicable to follow them up into trees; and last year they obtained both pollen and honey plentifully, from sources quite unknown to me, at a date much earlier than this.

We shall now be very anxious about the weather in these parts. The apple and pear-buds are just showing rosy tips, and an hour's good sunshine would open them. Unfavourable conditions during the next fortnight will mean the loss of another year's supply. The bush and cane fruit-trees are bursting into leaf, but are not opening their fruit-buds as yet. The hedges are still very backward. The larger trees are showing leaf-buds. It is curious, but I cannot persuade my cottage neighbours that the bees have anything to do with their fruit harvest. They maintain frost at night is the only thing to be feared. And yet I am quite clear that last spring, when my apples and pears utterly failed for the first time in six years, there was no frost, but the high and cold winds and wet weather kept the bees from the blossoms. *Experientia docet.*

Will Mr. Woodley [2283, page 134, col. 2] allow me to pass on to him for what it may be worth, a wrinkle *re* putty, confided to me by a friendly house-painter who once saw me struggling with like difficulties—that is, if he does not already know it. It is simply this.—Give the article to be puttied a good first coat of paint, working the paint well into all cracks and crevices to be puttied up, *before* applying the putty. Then fill in the putty, and give a second and third coat over all, and the putty will, at any rate, last much longer than otherwise. Also, my informant imparted to me the further hint that few amateurs *work up* putty sufficiently before using it.—W. R. N., *Sussex, April* 8.

CHAPMAN HONEY PLANT.

[2296.] Please find enclosed a few seeds of "Chapman's Honey Plant." I would have sent earlier, but having changed residence in the beginning of January my things got disarranged, and I only came across these the other day. I have not yet succeeded in getting the plants to bloom the first year, though I have grown it for several years past. I distributed a quantity amongst purchasers of my Limnanthes. These seeds were saved last summer.—J. QUARTERMAIN, *Tenby, April* 8.

READERS OF B.J. AND FOUL BROOD.

[2297.] I would with permission like to put before yourselves and your readers the necessity for correspondents who write to your valuable paper, to know whether certain pieces of comb are affected with foul brood, that they should have their names in the reply column printed in full. The B.B.J. is read by many beginners like myself who might purchase a stock from a neighbouring bee-keeper, not quite as straightforward as he should be, and so we would find our bees dead and gone before completing our first year of bee-keeping.

A good many beginners also send comb up to you to ask if it is affected with foul brood, and your answer is in some cases "yes," which answer appears in the B.J. Now a beekeeper living near this unfortunate might happen to see it in the paper, and so would probably hunt him up and offer him help in getting rid of the pest, for the double purpose of helping a brother bee-keeper and safeguarding his own bees.

Your paper is of very great help and interest to its readers, and I think that if this proposition was carried out, it would be more so. And now that bee-keepers are taking steps to get rid of this pest, I think this would be a very beneficial movement towards the end in view.—JUSTITIA, *Swansea, April* 8.

SURREY BEE-KEEPERS' ASSOCIATION.

[2298.] Referring to Mr. A. D. Woodley's communication [2287, p. 137) and my own remarks in your issue of March 21 regarding the above association, I should have been very pleased to undertake the hon. secretaryship had I been able to spare time for the work. Like the typical village blacksmith, however, I am so fully occupied:—

Week in, week out, from morn to night,

that to "take on" more work and perform it, either with satisfaction to myself or advantage to the association, is entirely out of the question. I am, therefore, with much regret compelled to decline even nomination for the office.—H. W. BRICE, *Thornton Heath, Surrey, April* 6.

LINCOLNSHIRE BEE-KEEPERS' ASSOCIATION.

[2299.] Lincolnshire, being a very large county, is divided into three parts, known respectively as Lindsey, Kesteven, and Holland, each having its own County Council, and the first-named Council is the only one that has hitherto responded to the appeal of the Lincs. B.K.A. for a grant in furtherance of the objects of the Association. For the past two years a sum of £25 has been set apart for this purpose, and the last grant has just been expended in the Lindsey Division in lectures,

fifteen in all having been given. Mr. F. J. Cribb, our expert-in-chief, lectured at Haxey, Owston Ferry, West Butterwick, Althorpe, Wootton, and Hibaldstow. Mr. F. H. K. Fisher at Bartneby, Stickney, Waltham, South Ormsby, Sausthorpe, and South Thoresby. Mr. C. N. White at South Kelsey. Mr. W. Lilly at Ingham and Sturton-by-Stow. These lectures have all been attended by large audiences, and listened to with marked attention, many afterwards expressing their intention of keeping bees. The chairman at the last-mentioned place wrote me saying "he was much interested in the lecture, and would endeavour to have a series given in his village next winter." I have often been asked—are these lectures doing any good? The answer I have always made is—look at our annual report, you will there find we have twenty-five districts, with local secretaries in the whole county, and of this number there are fifteen in the parts of Lindsey (Lincoln not being counted), and out of 318 members in the county 167 of them are in Lindsey. From the success of these lectures this winter we hope and expect a large increase of members during the coming season from the places visited; and I trust when the councils of Kesteven and Holland see the results from the grant given by the Lindsey Council they will also give us a like amount to be expended in their divisions.—R. Godson, Hon. Secretary, *Tothill, Alford, Lincs., April* 6.

Echoes from the Hives.

Stanford Rivers, Romford, March 25.—My six hives of bees have come through the winter very well, seeing how severe it has been. Not more than two dozen dead bees have been carried out of the lot. I gave each stock a 3 lb. cake of candy on December 26, and this has done much in helping them. Friday last being a beautiful day, I overhauled all my hives on the hives, and was surprised at the quantity of brood in five of them. The bees are bringing in pollen quite fast.—J. Downham.

Factory House, Royston, Cambs., April 1, 1895.—Bees are out to-day, busy carrying pollen from crocuses, daffodils, and such few wall-flowers as have escaped the frost. I have eight hives; one is a "Wells" of my own make. I put two lots of driven bees into it, and they have wintered well, although I did not get them until late in September. I am hoping I shall succeed with them. One small lot that I saved in a straw skep (a late cast), I have lost—much as I expected. One very weak one in a wood hive has also perished; so, out of—counting the "Wells" hive as two—eleven lots two have gone, so I do not think I have done very badly, if those left come out all right now. In October last, two of my best stocks had drones flying in abundance, so I got two lots of driven bees and put one in each. The drones were soon killed off after this, and they seem all right. I have kept candy on each hive through the winter, and renewed as wanted. I feel sorry so many have had their hives turned over through the storms, and I used to lay awake on a windy night sometimes and wonder if mine were turned over; so, to make them safe, I got two iron pegs for each hive, and drove in the ground, one on each side, and put a piece of wire over the hive roof, this keeping all tight down; and have never had a hive moved yet. This may be of use to some, and the cost is a mere trifle.—Walter Jarman.

Queries and Replies.

[1250.] *Uniting in Spring not always Advisable.*—I examined my two hives—holding ten standard frames—on April 1. The bees in both are on four frames, and I found each frame about three parts full of brood in all stages; there are also a lot of young bees just hatched out in both hives, but neither lots being so strong as they ought to be at this date, I write to ask—1. If you think I should unite them? Or will they get strong enough for supering, say, in a month, as I want to have supers on for the apple, sycamore, and chestnut-trees, of which there are hundreds hereabouts. There are also about fifty old lime-trees within 200 yards of my bees. I got last year 42 lb. of honey from one of these hives, and only 10 lb. from the other; the latter having a queen which produced nearly all drones. This year, however, she is breeding workers all right, and her bees seem to work harder than the others so far as the present season has gone. 2. What can be the reason for this? We have few bee-flowers in bloom here at present, but there are two large peach-houses and a conservatory a hundred yards off; on fine days the bees get plenty of pollen from the bloom in them. 3. Are chestnuts, sycamore, wild cherry, and holly good honey producers? We have lovely herbage for bees in the meadows here, for a mile or more round, while no bees but my own are kept for a distance of two miles. 4. Do you consider the fact of my getting 40 lb. from one hive in 1894 points to this being a good honey district?—H. Hamilton, *Tisbey, Wilts, April* 3.

Reply.—1. Decidedly not. Both hives require additional combs since there is brood on each of the four frames, and they may be considered as doing fairly well. 2. The drone-breeding queen will have been deposed last year and replaced by another. 3. Excepting holly, the others yield honey well. 4. Yes.

[1251.] *Mildewed Pollen in Combs.*—I have some frames of comb that were taken from hives last autumn when bees were packed up for the winter. They have had no honey

deposited in them, but the cells in centres of combs are full of pollen. This has become slightly mildewed. I do not like to sacrifice the comb, but, of course, would do so if there is any risk of causing harm to the bees.—W. E. MONEY, *St. Asaph.*

REPLY.—Slight mildew will be removed by the bees, but pollen left out of hives since last autumn will have become hard and useless to them. We should remove it by cutting away the cells down to the mid-rib.

[1252.] *Moving Bees.*—I have to move five frame-hives a distance of two miles and a half. I propose to do so in a spring-cart over two miles of the road which is good, though rather up-and-down hill, and then carry on a hand-barrow the remainder distance, which is bad road. Under these circumstances, will it be necessary (1) to make the frames hang rigidly by screwing down, &c. ; (2) to cover with perforated zinc in place of quilts during the journey ; (3) would it be best to make the move in the early morning or late afternoon ; and (4) how soon after arrival should I open the entrances ? — W. MORRIS FLETCHER, *Burley Beacon, Ringwood, April 3.*

REPLY.—1. Yes, we should certainly screw a couple of strips of wood across frame ends. 2. No. A piece of coarse canvas tacked down over frames will answer the purpose fully. 3. In the early evening, after bees have ceased work for the day. 4. Open entrances at once if bees are much disturbed ; but, if quiet, open them at nightfall.

METEOROLOGICAL SUMMARY.

MARCH, 1895.

Locality, Stoke Prior, Worcestershire.

Height above sea-level, 225 ft.

Rainfall, 1·60 in. In March, 1894, 0·80 in. fell.

Greatest fall in 24 hours, 0·23 in. on the 6th.

Rain or snow fell on 19 days ; in March, 1894, 10 days.

Max. shade temp., 61° on 21st and 22nd ; max. for March, 1894, 64°.

Min. temp., 13° on the 3rd ; min. temp. for March 1894, 23°.

Max. shade temp. at 9 a.m., 50° on 20th.

Min. temp. at 9 a.m., 27° on 2nd

Frosty nights, 14 ; during March, 1894, 10.

Max. barometer, 30·1 on 15th, and 16th,

Min. barometer, 28·6 on 28th.

Some very bright and warm days during the month, thus enabling one to overhaul the stocks with comparative safety. The proverbial March winds, on the whole conspicuous by their absence, except on Sunday, March 24, when the wind blew a hurricane for about half-an-hour, velocity, eighty-six miles per hour, and pressure 37 lb. to the square ft., thus giving bee-keepers great anxiety about the safety of their hives. More than a hundred large oak, elm, poplar, fir, and willow trees brought low, and several houses unroofed, within a radius of a mile and a half from here, but, fortunately, no serious damage done to hives nor occupants. Saw first crocus in full bloom, March 10 ; gooseberry and currant bushes coming into leaf. Barometer and temperature low at close of month.

PERCY LEIGH, *Beemount.*

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

"DOUBTFUL" (Chelmsford).—*Bees refusing Syrup.* Before attributing their refusal to other causes, try them with a wide-mouthed jar of warm syrup, covering the mouth with a piece of muslin, and inverting over the feed-hole, with nothing between the bees and the muslin. If they carry in pollen freely, and no other food can be had outside, there is no reason why well-made syrup should be refused at this season.

JOHN BROWN.—1. Comb is affected with foul brood. 2. Bees in pill-box are practically chilled brood, though not in the ordinary acceptation of the term. They are immature bees, probably of last autumn—chilled before the wings and other organs were quite developed—which have since then dried up in the cells. The bees will remove such dead inmates of the cells when cleaning the latter out for use.

J. HAMSHAR (Hilgay).—*Dealing with Diseased Stocks.* Foul brood is rapidly developing in comb sent If the bees are fairly numerous, we advise removing them from the combs as soon as the weather offers a chance, and putting them on a few new frames fitted with foundation. If kept warm and fed with medicated food while building out the new combs, it will give them their only chance of recovery. Burn the old combs and frames immediately after removal from the infected hive, and put naphthaline, as directed, on floor-board when giving the new frames.

T. C. GAULTON (Blandford). — *Renewing Combs.*—1. Presuming that the stocks were driven in the early autumn of last year, and are now doing well, as stated, they will probably need the remaining frames by the end of this month, or sooner if those in the respective hives are now nearly covered with bees. 2. It is the best plan to have about two new combs built in each hive in the spring of every year. In this way, if the best are retained, and all faulty ones removed as they become so, the hives will

be kept furnished with good combs at all times.

"*Bees Left Hive*" (Perry Barr).—From the brief particulars given we cannot judge well why the hive has been deserted by "all but about 200 dead bees." It would seem to be a case of queenlessness in autumn.

D. (South Devon). — *Observatory Hive.*—1. Bees are kept in observatory hives with combs hung above each other, and so visible on both sides, for a few months in summer time. Such hives, are, however, generally used for show purposes only; when the bees are never confined more than seven or eight days at a time. 2. If bees are kept for any length of time in them, they need much care by way of warmth, feeding, &c. 3. They take no harm at shows.

J. B. (Kidderminster). — The "discharge" noticed is simply the natural excreta of the bees.

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TWELVE of the BEST HONEY-PRODUCING PLANTS:—Sweet Alyssum, Arabis Alpina, Aubretia, Balm, Barlouia Aurea, Borage, Cornflower, Horehound, Limanthes, Marjoram, Mignonette, Sweet Scabious. Price 3d. per large packet, or 2s. 6d. for the dozen. Cash with order. THOMAS WALMESLEY, Jun., Bee Appliance Stores, Lichfield, Staffs. G 53

BEEKEEPERS in LANCASHIRE and CHESHIRE and surrounding Districts please note that the CENTRAL SUPPLY STORES for all BEE REQUISITES is in LIVERPOOL at the OLD SPOT, 50, GREAT CHARLOTTE STREET. GEORGE ROSE. Why pay carriage from long distances, when you can buy as cheap and good locally, and *have your orders promptly attended to?* Catalogues gratis.

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BLAKEY'S BEE FEEDER.

Made of wood, zinc, and glass. Holds over 1 lb. of syrup, and can be filled without removing from hive, and bees may be observed as they take the food without escaping. Price 6d. each. Postage of one costs 4½d., two 6d., four 9d., six 1s. 1½d. J. M. BALMBRA, 2, East-parade, Alnwick, Northumberland. G 33

TO BEE-KEEPERS AND SECRETARIES OF COUNTY ASSOCIATIONS.

GEO. J. BULLER, Triangle, Hitchin, Herts

(Many years Foreman to Mr. T. B. Blow),

Is prepared to undertake the management of Bees and general expert work, by the day or season.

For terms, apply as above.

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A few thousand "Roots" still at Stores, London "Falcons" at Liverpool; and both Roots and Falcons at wholesale depôt for the "Howard" Cut Sections Holme, Peterboro'. Apply to—

WM. BOXWELL, Patrickswell, Limerick.

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Of every description and best quality at lowest cash prices:—Jack Planes, 2½-in., 4s. 3d.; Smoothing ditto 2⅜ in., 3s. 10d.; Firmer Chisels, set of 1 doz. from $\frac{1}{16}$ to 1-in., 7s. 6d.; Best Claw Hammers, 2s. 9d.; Bench Axes, 3s. 6d.; Braces from 3s.; Set of 36 Bits, 16s.; Spokeshaves, 1s. 2d.; Squares, 6-in., 1s. 9d.; 9-in. at 2s. 6d.; Hand Saws, 26-in., 6s.; Ripper ditto, 28-in., 7s.; Tenon ditto, 14-in., 5s.; Foot Rules from 9d. to 3s. 6d. each; Clyburn Spanners, 1½-in., 10s. 6d. each; Chipping Chisels, 11d. per lb. Cash with order. W. J. GILLESPIE, Agricultural Implement and Tool Dealer, Glentriplock, Port William, Wigtonshire.

THE HIVE TO BUY.

Greenhill's 'W.B.C.' Cottager's Hive

This Hive is constructed after the original "W.B.C." Hive, in order to meet the requirements of Bee-keepers wishing to adopt a cheaper form. It consists of Stock Box, with Ten Frames, Section Crate, or Shallow Frame Crate, Stand and Cover complete for **15s.**

The Cheapest House for BEE APPLIANCES. Send for a Catalogue.

J. S. GREENHILL, 80, Graham-road, Wimbledon.
(27 Years with Messrs. G. Neighbour & Sons.)

W. P. MEADOWS,

(All Letters to *Syston.*) **Syston and Leicester.**

Owing to our orders in '94 being more than double those of '93, besides our unprecedented success at shows, and in giving satisfaction to our customers, we are hoping for a still further and continued success for the coming season. In view of this, we are largely increasing our premises, putting down more complete and expensive machinery, and shall spare no pains to maintain our reputation, and hope to receive orders as early as possible. **NEW CAT-A-LOG READY SHORTLY.**

Editorial, Notices, &c.

BEE-KEEPING AND THE PRESS.

Much of the remarkable and continued interest taken at the present time in bees and bee-keeping is, no doubt, due to the frequency with which the subject is referred to, not only in the newspaper press, but in the columns of periodicals and magazines occupying a large place in the popular literature of the day, and circulating by hundreds of thousands at every issue. All this is, of course, eminently satisfactory to those who are endeavouring to foster the pursuit of bee-keeping by extending its usefulness and popularity, and we are quite ready to admit our indebtedness to the Press and to pressmen for an amount of publicity—which means help for the cause we advocate—quite unattainable in any other way. One's gratification, however, becomes somewhat qualified at times by the appearance of sensational paragraphs referring to apiculture, not only silly and misleading in themselves, but tending to create a suspicion of trickery and dishonesty connected with bee-keeping and honey-production which has no foundation whatever in fact.

We had occasion last week to deal with a matter of this kind on page 146, and a cutting from a popular London weekly newspaper—perfectly harmless in itself, and, moreover, free from the objectionable features above referred to—has just now reached us which is so amusing from the bee-keeper's point that we venture to reproduce it for the benefit of our readers. It is headed "WELL-TRAINED BEES," and reads as follows :—

"In the education of animals it is more remarkable to see the smaller ones trained to exercises that seem absurdly out of place by the patient care of the human brain that devotes itself to this educational process. Mice, canary birds, and fleas! They have all been upon the boards. The idea of teaching the vivacious flea to perform certain specific antics! How was it instilled into its small imperceptible faculties, that in obedience to certain signals from the master, man, it should do things which would never enter into the mind of the simple, natural flea! Among the smaller animals, there is none that seems so intelligent, so practical, and sober-minded as 'the little busy bee.' He will mount in the air, and fly in a straight line for his hive. It has passed into a proverb, and when a man wishes to say that he has gone by the shortest line from one point to another (and that, as mathematics teaches, is the straight line), he says he 'made a bee-line' for the place. So in the structure of their cells they apply by instinct the form and proportions which reason proves to be most effective and economical of space. They are fine subjects, and obey implicitly their queen, and they take good care of the drones as long as they are useful to the wellbeing of the community, and kill them as soon as they cease to be so. It would appear, therefore, a very simple thing to teach bees tricks, and introduce them to a professional life as performers on the amusement stage. Yet probably very few have ever seen them trained. In 1831, however, a man named Wildman, of Plymouth, did train a troupe, and exhibit them for the recreation of the curious public. He got swarms of bees so well trained that he could make them enact manœuvres with as much precision and unity as troops of soldiers go through field tactics. This man used to exhibit the bees in a large hall, outside of which was a garden. When the bees got through working as trick performers, they could have a good time playing among the flowers. Wildman would appear before the audience with the bees swarming all over him. They were on his face, on his hands, crawling over his clothes, and his pockets were full of them. It looked as if he were a great flower full of material from which honey could be made, from the assiduous attention which these busy little bees paid to him. Whether they had been despoiled of their stings or not is not said. But he must have felt uncomfortable if he knew that many scores of bees, were they so minded, could have stung him at will. Such a quantity of bee stings as that could easily settle a man and leave him stung to death. Anybody who has ever been unlucky enough to receive the sting of even one healthy, vigorous bee will not find it difficult to believe this. The hives of the bees were in a certain part of the large hall quite removed from the stage where Wildman stood with them thickly clustered on him. All at once he would give a whistle, and, presto! the bees started off and flew straight to their hives. When they had got well settled there he would whistle again, and back they flew and settled on his face and hands and clothes once more. This was done with the greatest promptness and regularity. It must have been with some solicitude that the spectators assisted in this performance. But it is due to the bees, and perhaps to Wildman, to say that no one was ever stung by them."

Anyone at all acquainted with bee literature will, no doubt, have read of Thomas Wildman, and will probably regard the famous old bee-man of the early part of the century as a sort of

"Barnum" in his way, so far as the showman exploits with bees, which he turned to profitable account. In the light of present-day knowledge, however, we know that what were at the time regarded as marvellous performances with bees would be nothing beyond a few variations on what can be, and is, done by scores of experts to-day.

In the interest of truth, therefore, we must ask the writer of the above article to take it from us that what he calls "the intelligent, practical, and sober-minded bee" never was — and never will be—trained to go through the manœuvres described above; nor even so much as induced to leave its hive and return to it at the "whistle and presto!" of Wildman or any other man. In fact, the above article may be said to contain a minimum of truth overlaid and obscured by a maximum of fiction.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, on Thursday, 11th inst. Present: T. W. Cowan (in the chair), Major Fair, H. W. Brice, W. Broughton Carr, J. Garratt, G. H. Hooper, E. D. Till, and J. M. Hooker and Dr. Rayner, ex-officio, J. Huckle, secretary. Communications were received from the Hon. and Rev. H. Bligh, Rev. G. W. Bancks, Messrs. R. T. Andrews, H. Jonas (Vice-chairman), W. O'B. Glennie (Treasurer) and W. H. Harris, regretting their inability to be present.

The minutes of the last meeting of the Council were read and confirmed.

The statement of accounts to March 31st were considered and adopted.

Letters were read: (1) From Mr. A. D. Woodley, offering to read a paper at a future meeting of the association. Resolved that Mr. Woodley be thanked for his kind offer. (2) From Mr. C. N. White, notifying that the Cambs and Isle of Ely Bee-keepers' Association had been re-established under the Presidency of the Lord Lieutenant of the county.

The Educational Committee presented their report recommending that the annual first-class examination to be held on May 9, do commence at 10.30 a.m., at 17, King William-street, Strand, the usual test-lectures to be given by the candidate at 105, Jermyn-street. after the close of the ordinary business of the Council.

The Chairman reported that considerable progress had been made in the revision of "Modern Bee-Keeping," and that the committee had decided upon a series of new woodcuts for illustrating the work. Resolved that the report of the committee be adopted.

The Chairman further reported that communications had been made with the Board of Agriculture, and that the Minister of that department would probably fix either April 30 or May 7 as the date for receiving the proposed deputation from the association.

Mr. Carr reported that Mr. S. Atkin, of Norton Lees, Highgate, had kindly offered the proceeds of the sale of three stocks of bees in frame hives as a donation to the funds of the association. Resolved that the best thanks of the Council be given to Mr. Atkin for his generous gift.

The Council resolved to make arrangements for the holding of a meeting of bee-keepers in the show-yard at Darlington, subject to the approval of the Royal Agricultural Society.

The following new members were elected:—

Miss Maw, Benthall, Kenley, Surrey.
Mr. S. Percy Jackson, 9, Lincoln's Inn-fields, W.C.
Mr. F. V. Hadlow, Parkhurst, Buxted.
Mr. F. Walker, Cattle Market, Derby.
Mrs. M. Cox, Middlecote.
Mr. T. Minns, Merton Colliery, Sunderland.
Capt. Wigney, Hampton.
Messrs. Ernest and H. W. Lanaway, Redhill.
Mr. Thos. G. Peel, Armagh, Ireland.
The Rev. F. Aston, Bushbury Vicarage, Wolverhampton.

The Council adjourned to May 9.

We are desired to draw attention to the arrangements made for conducting the examinations which take place on May 9 and 11, entries for which close on the 20th inst. At the examination to be held on May 9 prox. first and second class certificates will be awarded. Entrance fees 10s. and 21s. respectively, half the fees paid to be returned to the unsuccessful candidates. The examination will take place in London. For particulars see report of B.B.K.A. Council meeting in opposite column.

The examination to be held on May 11 consists of paper work only, and may take place where the candidate resides, arrangements for which must be approved and confirmed by the secretary of the affiliated association. This examination has been arranged in order to afford to those candidates whose certificates were granted prior to 1891 an opportunity of gaining a diploma on the nature and treatment of foul brood. Entrance fee, 2s. 6d.

In reply to inquiries as to the books for use in qualifying for the above examinations, the books referred to are—*Modern Beekeeping* (7d. post free), Cowan's *Guide Book* (1s. 8d. post free), Cowan's *Honey Bee* (2s. 8½d. post free), and Root's *A.B.C. of Bee Culture*.

FOUL-BROOD LEGISLATION.

In view of the proposed deputation to the President of the Board of Agriculture, which

will probably be received by Mr. Gardener at the end of this month, or early in May, the committee of the B.B.K.A. hope that secretaries of county associations who can suggest the names of members of Parliament likely to aid the movement should immediately communicate information to Mr. Huckle, King's Langley. This matter is urgent, and prompt attention is earnestly desired.

BOGUS BEES.

This time bogus bees are announced from America. An enterprising American from Kentucky is advertising "The Giant Bee of India." There has for a long time been a hankering after *apis dorsata* in America, and some have even wished that the Goverment should take up the question of the importation of this bee, notwithstanding all that has been written about it. When it is known that *apis dorsata* is quite a different species to *apis mellifica*, and that the two species will not interbreed, the barefaced imposture of the following article, which has found its way into the *American Bee Journal*, will be apparent:—

The Giant Bee of India.

By C. D. Holt.

This bee was brought from Ceylon to the United States in 1891, and is distinguished from our bees by its giant size, and the manner of obtaining honey from flowers that the common bee cannot gather from. The Indian bee (*apis dorsata*), with its front feet, and large, strong mandibles, tears open any flower in which it can't reach the honey with the tongue, and gathers nectar where no other bee could enter. It is one-half size larger than the Cyprians, but gentler and easier to handle than the Italians. While they will not gather any more honey than either of the above, yet the crosses of the giant and Italian gather more than twice the amount of any race of bees known.

The full-blooded Indian queen is not so prolific as our natives, but she and her workers live longer. The workers live through the season of six or eight months instead of two or two and a half, as with our common bee. The great advantage of this bee is in crossing. By using an Indian drone and an Italian queen, her half-breed workers partake of nearly the size of the Indian bee—their gentle dispositions, their ability to go into any flower—red clover, pea-blossoms, and all—and their indisposition to swarm.

The full-bloods swarm but once in a season, under any circumstances, and you can hardly make them rear more than two young queens at a time in one colony, and but few drones. The young queens are generally fertilized in the hive, or on the ground; put a young Italian or black queen in a cage with an Indian drone, and he will fertilize her at once, and one drone will fertilize as many as four queens.

The above is as nearly correct as I can give, but I am satisfied that this bee is of greater importance to us than any other strain or family of bees. They and their crosses don't tolerate moth or any enemy to prey on their stores.

For a more minute description of them, see special bulletin of our Agricultural Department for August, 1891, and a short notice in the report of 1893, page 201.

In a footnote, the editor, Mr. York, says:—

[Mr. Holt lives in Kentucky, and claims to have the bees which he describes. I do not believe in discouraging new things too much, but I would suggest, before anybody "goes wild" over the above-described "giant bees of India," that these bees be experimented with by a few bee-keepers like Hon. R. L. Taylor, Dr. C. C. Miller, Hon. Eugene Secor, and other equally reliable and prominent men in our ranks. It does not pay to rush after new and untried things too much, and until fair and impartial trial has been given, I would say, "go slow."

Understand me, I do not say that Mr. Holt's bees are not what he says they are—I merely suggest that they have not yet received sufficient trial to warrant bee-keepers investing very heavily in them.—Editor, *Am. B.J.*]

The advice to "go slow" is all right, but would it not have been better to have told readers that the above article was merely a "hoax," and that it was only another attempt at obtaining money under false pretences? If Mr. Holt claims to have these bees, all that he says about "the crosses" in the above article is perfectly untrue, and the fabulous amounts of honey produced by them is a myth. The queens cannot be fertilized in the hive because there is the greatest difficulty to induce this bee to stay in a hive at all! Instead of only swarming once, as stated, *apis dorsata* is the most restless of bees, usually building combs on the boughs of trees, or, occasionally, in caves, and repeatedly swarming, the whole of the colony abandoning its combs. We need hardly say that if a young Italian or black queen were put in a cage as suggested, she would not be fertilised as stated. We simply write this as a caution to our readers. No doubt an equally enterprising Britisher will find some editor over here gullible enough to give him a free advertisement, but we would ask our readers not to part with their money, and to have nothing whatever to do with these bees until we hear further from America. We have ourselves no doubt that the whole thing is a hoax, but as the advertisements have appeared in other respectable papers as well as in the *American Bee Journal*, we shall no doubt hear something from the editors of these papers, which, it is to be hoped, will promptly put the matter in its true light, and prevent imposition.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE JOTTINGS

FROM HIGHWAYS AND BY-PATHS.

[2300.] *The bee-season of* 1895 is now *the* question amongst us bee-keepers. Is it going to be a good one? Judging from my own district I should say yes; everywhere around are indications of bee-forage—though late—being more than usually abundant. The white clover plant looks stronger and more plentiful than I ever remember it, while the meadows, hedgerows, and woods are simply covered with bee-flora, which if not highly classed as honey plants, are still all helpful to our bees in early spring. Among others I notice the wood anemone, aconite, agrimony, borage, bitter-sweet, campanula, coltsfoot, catmint, lady's-finger, orchis, mallows, sorrel, speedwell, several of the nettle tribe, ragwort, wild strawberry, &c. In a word, the busy season is close on us. Are we preparing for it? Are the bees being gently but continuously fed in the time of scarcity, and to build them up to be ready and strong when the "push" comes? This question of "building up" always brings to mind that of "spreading the brood;" an operation at once so helpful and so harmful. Taken generally, I consider that brood spreading is best left alone, though in skilful hands it may be advantageously employed. The average bee-keeper should rely upon slow feeding, and adding a frame of uncapped honey next the dummy-board as the bees require room. If queens are right they will produce brood enough to keep the workers busy, and if the latter are in good heart queens will not lack cleaned-out cells for egg-laying.

Preparation for the Honey Flow.—Then comes the important thing for the bee-man to consider, viz., the date his honey flow begins. It is worse than useless for him to have his hives full of brood and young bees that don't work just when the flow is "on." At that time he needs a full working field-force. Every egg laid a month before the honey flow is worth how many times its weight in gold? but every egg laid during the same is a dead loss. The moral of this is: Keep your eye on dates, and remember how long it takes to change an egg into a full-strength worker-bee.

Do bees pay?—Your correspondent (2286, p. 136) is indeed unfortunate. One phase of his letter, however, strikes me as curious, and that is the way in which he must have wasted his money. Thirty pounds invested in bee-gear; an additional £11. 5s. 4d. expended in 1894; total, £41. 5s. 4d.; and, according to your correspondent's own valuation, not £5 worth of goods and bees to show for it! Still, there is hope for bee-keeping if with less than £5 worth of bees and appliances he makes an annual profit of £13. 13s. 10d. Why this is nearly 300 per cent.! There should not be much cause for doubt on the question your correspondent deals with, for, even on his own showing, and bearing in mind the adverse circumstances of the case, it is clear that even *his* bees *do* "pay."

Do Fertile Queens ever Leave the Hive?—"Leberceht Wolf saw a laying queen come out of a hive in early spring and fly away, returning in three minutes." "J. W. Roth, in February, found a queen in front of one of his hives. She was given to a colony found queenless the day before, in which she commenced laying within twelve hours. The apiary was immediately inspected, but no other queenless colonies found." Both the above cases are recorded in *Bienenzeitung* (Gravenhorst).

Requeening for Prevention of Swarming.—"Requeening early in the season scores a point in favour of non-swarming."—W. N. M'Neal, in *American B.J.* I think Mr. N. is right to a certain extent, but the question arises, how or where is the new queen to be got "early in the season?" It would not improve matters to requeen with an old one. Besides, to have any effect on the swarming question, it must be a queen of the current year. Even then I do not think it would answer in every case. There are also other points to be considered, viz., at what time of the early season the new queen was given, and to what race of bees she was joined. If carniolans, I think they would swarm—as they always do—on the first opportunity.

Bee Books and Bee Journals.—Referring to the question whether a beginner should obtain a complete work on bees, or subscribe to a bee journal, when commencing his studies of the craft, the *Canadian Bee Journal* says:—"Get a book," and adds—"Every man who wishes to advance and study the business should take in a bee-paper." "Those who do not wish to keep bees in the best way had better stay out of it. Their doom is generally sealed before they begin."

I agree with the above, but add—take both; but in any case a good bee-book is indispensable. If you can afford it, take all you can get. It is not money thrown away.

Subjugation.—The article on this subject by

Mr. Webster, in *Record* of April, is worth consideration. I don't favour the carbolic cloth myself. My experience of it is that it first frightens the bees a bit, and makes them more cross afterwards. I may, of course, be wrong; and as Mr. Webster offers to supply samples (at cost of postage); I will be very pleased to have one. I will fulfil my part of the contract and get the mustard tin and the twopence ready. I take it, our friend Mr. Webster, has his "American mixture and portmanteau" a'so well under way when manipulating?

Non-swarming Arrangements.—This question is arousing attention among bee-keepers in other parts of the world along with ourselves. As reported in the *B. K. Review* (Am.), Mr. Aspinwall uses boards half an inch thick, and perforated with holes large enough for the bees and queen to go through. These boards are placed during the swarming season alternately between each of the brood combs, the theory being that as the bees can put no comb or honey into these holes, they (the bees) regard the hive as being half empty. Any way, this spreading out of the brood and bees must be risky, and require much care, and necessitate the use of large hives. Before the idea could be adopted here with safety, we should have to consider the difference in the temperature of our climate. Mr. Aspinwall states that he had seven colonies thus arranged, and no sign of swarming took place; and a fair amount of comb honey secured, whilst seven colonies in hives without this arrangement all swarmed, and only gave an average of 2 lb. of honey per hive.

Abuse of the Smoker.—"It is a very difficult thing to estimate what amount of mortality is caused among bees by the injudicious use of the smoker; but could it be accurately arrived at, I daresay a good many bee-keepers would be surprised to find what havoc they have caused among the inhabitants of their apiaries by the injudicious and indiscriminate use of even a 'cold-blast' smoker. . . . . A few puffs of smoke, if properly directed, are all that are generally needed, there being no use in smoking bees when they show no disposition to sting. Many people work the smoker like a blacksmith does his bellows, and as though they thought their lives depended upon it."—E. T. Abbott, in American B.J.

To find the Queen Easily.—A correspondent of the American B.J. says:—"If you have a queen that is wild and difficult to find, and you are anxious to interview her, instead of shaking the bees out on the ground and straining them through perforated zinc, place in the hive a queen-cage that has lately held a queen. In about an hour, or a little less, open the hive, and nine times in a dozen you will find her (royal) highness in the cage looking for a supposed rival."

The above very original plan, so far as my knowledge goes, seems an extremely simple way of overcoming what has proved a difficulty to many bee-keepers who are unable to "spot" a queen easily. I have not yet tested it myself, but it appears quite feasible, and well worth trying.—H. W. Brice, *Thornton Heath, Surrey.*

QUEEN'S PIPING.

DR. C. C. MILLER'S VIEW.

[2301.] The "why" of the piping of queens is an interesting matter, and your correspondent "Peter Bois" (2199, p. 36, B.J., January 24) gives some new light. But I confess to being a little puzzled over his statements. By "piping," he says the young queen "first and foremost proclaims the presence of other virgin queens in the hive. In another place, he says she pipes when she finds a clean empty cell. Now, what are we to understand? Are we to understand that she will not pipe unless there are other virgin queens in the hive? Also, that she will not pipe if no empty cells are found by her? Suppose one of these conditions were present without the other, would she refrain from piping?

If these rules are to be relied on, I feel pretty sure they are not without exceptions. I think I have known virgin queens to pipe when no other virgin queens [I prefer your British word princesses] were in the hive, and I am sure I have known laying queens to do so. I have also known princesses to pipe when held in my hand, with no empty cells in the case, and I have read of laying queens piping while lying caged on A. I. Root's desk. How is it?—C. C. Miller, *Marengo, Ill., U.S.A.*

WILFUL DESTRUCTION OF BEES.

THE LAW OF OWNERSHIP IN SWARMS.

[2302.] Perhaps you may remember that last July, 1894, I complained of the conduct of a neighbour of mine destroying two swarms of bees belonging to me. On Wednesday last at Tuam Marter Sessions I had no difficulty in getting decrees of 15s. for each swarm against this man.

The defendant admitted destroying both swarms, one of them by pouring water over it, but claimed that he did not know whose bees they were, and challenged proof of ownership. I proved that I saw them swarm out of their hives and saw them cluster, and was standing beside him when he destroyed one of them and claimed it as mine.

His honour, the county-court judge, said it was not necessary for my solicitor to quote the law on the ownership of bees to him, as he knew it already, and gave decrees at once.

The law relied on by me is laid down in the "Commentaries on the Laws of England," by H. Broom, LL.D., and E. A. Hadley, M.A., Vol. II., and the particular passage, "But a

swarm, which fly from and out of a hive, belong to the owner of the hive so long as he can keep them in sight, and have power to pursue them, or, which is much the same thing, identify them, and, in these circumstances, no one else is entitled to take them." His honour also said that I was entitled to follow them into my neighbour's garden under these circumstances, just as if they were my sheep or cattle, as how else could I reclaim them?

This judgment may be one of importance in such cases, so, perhaps, you might kindly insert it in next issue of the BEE JOURNAL.—T. KIRWAN, *Tuam, Co. Galway, April* 7.

BEE-KEEPING IN PALESTINE.

[2304.] Referring to your notice in B. B. J. for April 11, page 143, on "Bees in Palestine," the question is put forth whether 41½ lb. per hive is good, bad, or indifferent. You have already answered it yourself by saying it is not bad. The Jew referred to is a settler in a small colony, Wady Hnain (the Vale of Yearning), probably from the many battles fought there between Philistines and Israelites, the Israelites and Egyptians, Macchabees and Romans and Greeks, Crusaders and Saracens, especially big battles with Richard Cœur-de-Lion, and, in our own times, Bonaparte's army against the Palestine Arabs. It is quite near the Valley of Sorek,—Samson's field of labour and destruction. The Jew is one of the Russian refugees. In 1882 we taught him bee-keeping, and it is our hives he has—*i.e.*, a double-story hive with same size of frame throughout. Each story of the hive holds thirteen frames 11½ in. by 10 in. Wady Hnain is about ten miles from Jaffa, so Moses (that is his name) loads his hives (just as my brothers still do, and as I did for many years) on camel-back about the beginning of March, and carries them to Jaffa, where are several hundreds of thousands of orange-trees in a compact mass, giving a greater quantity of honey than the orange-trees in the south of France. The orange-tree blooms in Palestine from about middle of March to middle of April, whilst here they flower at beginning of May, and very irregularly to arrive at the height of blooming and honey secretion about middle of the month; and in ten more days all is over. Yet to average 42 lb. (or 21 lb. during orange-blossom) is not good; but it must be borne in mind that the honey season of 1894, bad in Europe in general, has been an average bad year in Palestine too. There has been a succession of fairly good years from 1882—1887 included, 1884 and 1887 being a good deal better, when some hives gave me between 100 and 200 lb. 1888 was a most miserable year; still, we averaged something like 15 lb. a hive in Jaffa from orange-blossom. Then again a series of excellent years, 1889—1893 included. I averaged up to 1892, when I left Palestine, 100 to 120 lb. per hive. 1894, however, was bad, as my brothers reported. Then Moses does not remember to always "extract early and well," partly because of his living ten miles away from the apiary, and partly from religious causes. Easter week, falling generally right in the orange-blossom, and although some Jews do their work in the week, and "keep" only the first and last days, Moses' wife is of the tribe of Levi, and they keep it stricter, though in some occasions the Jew "turns the law." Since they have settled afresh (1882), and taken to agriculture, they tried to follow the law in letting the land rest every seventh year (Leviticus xxv.). But cupidity was ingenious. Moses, our bee-keeping friend, sold his land in 1889 (Jubilee year) to his farmer, a Mohammedan; but the sale was fictitious, and the fellah had to give back land and money of its sale at the end of year, and, to avoid unpleasantness, the Jew kept the money for the fellah every time he sold anything. So the Jew has lost nothing, and the outside varnish of the law was kept. A second gathering of honey at Wady Hnain and Ekron completed the meagre harvest for 1894, but the failure must partly be put to the account of the exceedingly dry summer.—PH. J. BALDENSPERGER, *Mont-Gros, Nice, April* 13.

TWO QUEENS IN HIVE.

RENDERING WAX, AND OTHER MATTERS.

[2305.] Your prognostications came quite correct concerning the young queen I wrote about in October last (page 430). I put a division between the two queens, as stated, but when the cold weather came, they joined together again. Upon overhauling the hive a month ago, I found the young queen. The old one, *minus*. Examining again, a week ago, found drone brood in worker cells. You may guess I soon dispatched her and united bees with next stock.

I don't know how many of your readers are "locked out," as I am, but, compared with the bees, even I must not complain. They have been practically "locked in" for these three months past. They are, however, out again, at last, and how they enjoy it! To-day while strolling through the woods the air was all music with the joyful hum of the bees; round about every willow the *apis mellifica* sang a merry tune. I was surprised to find so much pollen and honey in what we call the "palms."

Last week I had a "go in" for wax rendering. My plan of doing it was rough, but it may be useful to some readers. It was as follows:—Put a large pan half full of water on fire; place an ordinary vegetable-strainer (or collander) on pan; put combs in collander. The heat and steam soon melt the combs, and

the wax runs through the holes into the water below. When all is melted, allow to cool; take out cake of wax when cold and pare dross from under side. Finally, re-melt in small quantity of clean rain-water, and run into moulds.—W. H. SMITH, *Kingswood, Bristol, April* 9.

CURIOSITIES OF WINTERING.

[2306.] It is very strange that many stocks that were well cared for have perished during the past winter, while others uncared for have survived. I went to look at two hives belonging to a neighbour; one had a box of sections on top of frames, and the only covering on the box was a bit of calico and one thickness of a piece of an old counterpane. The bees in this hive were as strong as any I have seen—indeed, the hive was quite full. The other lot, a last year's swarm (which hived itself!) had only calico and one thickness of felt over frames, and was also very strong.—B. BOOTHROYD, *Solihull, Birmingham, April.*

[It is no less strange than true that healthy stocks of bees, headed by vigorous and prolific queens, will prosper spite of the most unfavourable surroundings, just as the opposites of the above will do no good no matter how carefully tended.—EDS.]

THE SPRING AND THE BEES.

[2037.] To lovers of nature spring is always a cheerful season, and an interesting time it is when a warm day invites one to take the first peep of the year into the hives; especially is this so if five long and cold (zero cold) months have elapsed since the last peep was taken. The doubts and suspicions engendered by absence gave place to the pleasure afforded by sight, and a pleasant sight it was to me on the 3rd inst. to see the bees in my out apiary (of eight hives) merry as crickets, "wiling the happy hours away" in flight and buzz.

During the journey of seven or eight miles over moorlands and country lanes, the retarded state of vegetation strikes one forcibly; the season is a backward one, scarcely a leaf to be seen, the usually early catkins of the hazel are even behind their time, and, although pollen is being carried in, one wonders almost where it comes from. Only here and there a sweet violet or a modest primrose may be seen coming in the spring time to tell of countless sunny hours, long days, and solid banks of flowers, and, may we add, a good season withal.

Your hopeful expression in "Useful Hints," that stocks may come out better than expected, has in my case been realised, and I hope with many others of the craft. Of fourteen stocks, one died from cold with a mint of stores at hand; another—with shame I say it—from want of stores; and in a third case the bees in one compartment of "Wells" hive went to visit their friends the other side the division-board, and stayed there. Curiously enough, a stock with twenty shallow frames overhead left on to be cleared last autumn, and another with ten, have come out vigorous, and all the better for autumn neglect; but this is not my rule. I am convinced that to winter well early feeding should be the order. In 1893 I fed up the last week in August (too early, say you), but I had the gratification of seeing early foraging—

Honey-bee, so mad for love of early blooming flowers—

and a fair return of honey in a poor season, too. We are glad to note the weather is much warmer, and appears to be verging on the joyful time of the singing of birds, and the general bursting forth of green life on all sides. Welcome genial springtime.—TOMTIT, *Swansea, April* 3.

Queries and Replies.

[1253.] *Bees Dying.*—I herewith send you a few dead bees, and shall be glad if you will kindly tell me the cause of their dying in such a strange way as they do. I have six hives, but only one is affected. They all came through the winter safely. I put on candy cakes as soon as the weather broke. On fine days they would come out on the alighting board, and be apparently cleaning themselves, and then would roll off on to the ground. I noticed dozens of them clustered about on the ground, and they all had the same swollen appearance as the enclosed. The fact of robbing going on at this hive to-day, and no pollen being carried in, made me suspicious, so I made an examination, and was surprised to find not more than a pint of live bees and about an equal quantity dead and dying. I could not find a queen, though I saw some recently-hatched bees, some brood, and a queen-cell started with a larva in it; but this, as well as the other larvæ were apparently dead. There is plenty of food in the combs, which are not at all soiled; but the entrance of the hive is a good deal spotted, indicating dysentery. I enclose sample of the candy cake used, made from what was warranted pure cane sugar, but the bees have not touched it. The same sort is on my other hives, but if not suitable I will take them off. I have some hundreds of plants of the Canadian balsams, self-sown. Any readers of your valuable paper who would like to have some can do so by sending stamps to defray postage to W. SNELL, *Eggesford Station, N. Devon.*

REPLY.—Bees sent are suffering from abdominal distension, and consequent inability to fly. If they have partaken of such candy

as sample received it would in a measure account for the mischief, as it is apparently made from raw sugar. Only granulated sugar should be used for candy making.

[1254.] *Hive-making for Beginners.* — I commenced bee-keeping last September with three straw skeps I got from parties who despaired of their living through the winter. I gave them 5 st. of sugar in syrup; made canvas oiled covers, which were kept on every night and wet day. I lifted the skeps off the floor boards yesterday, and did not find a single dead bee. They have been bringing in large loads of pollen for the last month (where from I cannot make out), and have increased very much. The bees in bar-frame hives round here have all died except with two parties, whom I had great trouble in getting to feed them. Not a single straw skep has failed of hundreds, and some of them are so rotted away that it is only the combs that are resting on the floor. I have timber cut and seasoning for the last three months, to make hives after the Cowan plan, and there are some points I would like to know, as I do not see it given in *Guide Book*. 1. What space should be allowed between the hive and outer case? 2. Would it be better to make the roof with deeper walls, so that a second story need not be used for wintering, and so reduce the height of hive, and lessen the danger of being overturned in storms? 3. Would *carbolised* vaseline be dangerous to rub to ends of top bars of frames, to prevent bees from sticking them to the walls of hive? 4. Are the black bees so commonly spoken of as being vicious entirely black? All the bees about here have three or four yellow rings on the abdomen. 5. Would you recommend full-sized frames in surplus chambers when working entirely for extracted honey? and if so, should they be wired? 6. About what time may I expect the skeps to swarm, as they are in very good condition?—INQUIRER, *Newmarket-on-Fergus, April* 6.

REPLY.—1. About 1 in. space on all sides is usually allowed. 2. Shallow "lifts" (about 6 in. deep) are used for raising the roof as needed when surplus chambers are on. 3. Non-carbolised vaseline is much more suitable for the purpose as being unobjectionable to the bees. 4. Black bees are usually credited with less viciousness than some of the yellow varieties. 5. Shallow frames 5½ in. deep are now generally used for extracting purposes, and need no wiring. 6. In May, or early in June.

[1255.] *Bees in Hive Roof.*—I made some purchases from the apiary of a friend on the border of Berks; and on examining one frame-hive after getting it home, I find the roof full of combs, bees, and brood. The owner had shaken a swarm on top of frames, and just put the roof on and left them to take up their quarters therein instead of in the frames below. 1. What can I do with them? Should I let them swarm? 2. Is this stock of the same value as if the bees had been hived in the proper way? The bees are very strong. —G. WEBB, *Swindon, April* 15.

REPLY.—1. Since the stock is strong in bees, and doing well, we should not break in upon its prosperity, but let it swarm, and deal with the combs in roof twenty-one days later, when all brood will have hatched out. If the season is good the combs in roof would be mainly filled with honey. 2. A stock of bees located in roof of their hive is by no means of equal value with one in good working order.

Echoes from the Hives.

Roundstone, East Preston, Worthing, Sussex, April 15.—The weather, from a bee point of view, is simply atrocious. A bitter E. or N.E. wind—at times a gale—has been blowing continuously since Thursday night last. In the lulls my bees are bringing in bright yellow pollen. I cannot tell whence, as there are no willows (to my knowledge) anywhere near.—W. R. NIGHTINGALE.

Bee Shows to Come.

June 24 to 28.—Royal Agricultural Society's Show at Darlington. Entries close May 1. Schedules from J. Huckle, King's Langley, Herts.

BEE-KEEPING IN GERMANY.

BY C. J. H. GRAVENHORST.

Read at the recent Convention of the North-American Bee-Keepers' Association.

It is with pleasure that I accede to the request to prepare an article for the convention in St. Joseph, Mo., and I willingly select, of course, the subject which has been suggested as one about which information is desired. Although this subject is such a prolific one that I might write volumes on it, I will nevertheless make my article as brief as possible.

The keeping of bees in Germany is very old. Records which show this reach back 400 years before the Christian era. The bold mariner Pytheas of Massilia (Marseilles), a contemporary of Alexander the Great, records in history that on the north coast of Germania, on the banks of the river Ems, he had found honey used in the preparation of mead. Junius states that before the battle of Arbalo against the Cherusker (11 B.C.) a large swarm of bees settled on the cord and shaft of a

lance in front of the tent of the camp-prefect Hostilius Rutilus, in the camp of Drusus. Moreover, Peinius records the finding in north Germany of a honey-comb 8 ft. long, taken from a log-hive—that is, a hive hewn out of a tree trunk. He tells how the old Germans followed the keeping of bees in the forests and in gardens, in living trees in which a lodgment for the bees was hewn out, or in hives which they had cut from the trees and placed near their dwellings. Especially the Slavic laws prove that already in the fifth century of the Christian era covered as well as uncovered bee-houses existed.

The greatest development which apiculture has ever had in Germany occurred in the so-called Middle Ages. This began, however, with the introduction of Christianity, from which time on the consumption of wax in the shape of candles and tapers constantly increased. The information which has become available to us through the writings left by monasteries and churches proves through the records of taxes for honey and wax which had to be met annually by the peasants, that bee-keeping yielded enormous returns. Thus it came about in the Middle Ages that the trade in honey, wax, and mead reached its highest prosperity. Great quantities of the products of bee-keeping were exported by way of Hamburg and other seaports to Spain, Constantinople, Syria, and Palestine. This flourishing of apiculture was greatly aided by the great attention paid to it by princes and owners of large estates. The so-called zeidler societies were founded. These were composed of those who were engaged in the care of bees, and also such as were engaged in collecting and straining honey and clarifying wax, and were called *Zeidler*.

These zeidler societies formed closely-allied branch associations, which were given special rights and privileges. The strictest laws protected them. Only skilful bee-keepers were accepted as members. They elected judges (*starosten*) and elders from their own number. The forests were divided off into districts, and each district was under a zeidler, while several districts formed a society, which, in most instances, managed large numbers of colonies. The Upper Lusatian Zeidler Society, for example, had 7,000 colonies. The zeidler system was especially flourishing in the Mark of Brandenburg. It was developed on a similarly extensive scale in the so-called royal apiaries in the Bavarian forest in the vicinity of Nuremberg. In the year 1538 the value of two colonies was the same as that of a cow.

But, unfortunately, from this time on, apiculture in Germany went down hill at a great rate. On account of the Reformations the price of wax decreased greatly, for the glittering lights in most of the churches were extinguished. But what contributed most to the downfall of apiculture in Germany was the fearful thirty years' war which raged on account of religion, after the close of which, in 1648, three-fourths of the inhabitants of Germany and 80 per cent. of the cattle had been destroyed, and one-third of the cultivated lands laid waste. Only gradually, very slowly, people thought of apiculture again. During this time conditions had also greatly changed. People had learned to replace wax with substitutes, and honey with cane and beet sugar, syrup, &c.; the mead breweries, which had cost so much, had disappeared, the forests had been decimated, and, through intensive culture, many of the honey-producing weeds exterminated. The belief that bee-keeping was no longer profitable gained ground constantly. To awaken even a degree of interest in it again required great and persistent efforts. In this men like Nikol Jacob in Silesia, Schirach in Saxony, who first practised the artificial increase of colonies, Riem, Spitzner, and Christ were notable. Christ invented the magazine hive, which consisted of several boxes placed one upon another.

After the the thirty years' war, apiculture made exceptional progress on the north German plains, as for example, at the mouths of the Ems, the Weser and the Elbe, and especially in that portion which to-day is included in the province of Hanover, and the adjoining lands, where endless areas, covered with *Erica vulgaris*, and, here and there buckwheat, offered to the bees a good autumn harvest. Here bees were kept, and are still kept to-day, in the round bell-shaped straw hives. The method followed is a very rational one. The colonies, through feeding, are urged to give off numerous natural swarms, and if, for example, 50 colonies increase to 150, of these 100 are sulphured in the fall. In good years for honey these yield about 3,700 pounds of honey and 50 pounds of wax. These returns are obtained mainly by following the migratory system. Even though in many other localities in Germany bees were kept in straw hives, this is of little moment. Box and log hives have nearly disappeared. Housing bees in living trees is no longer followed.

(*Conclusion next week.*)

TRADE CATALOGUES RECEIVED.

W. P. Meadows, Syston and Leicester. 56 pp.—Mr. Meadows' catalogue for 1895 is very admirably got up; full of illustrations, many of them new, and all excellent. Nothing the bee-keeper, or amateur hive-maker, can possibly require is omitted from the list. Three capital engravings of work-benches and tools of all kinds, besides a full list of hives and bee-appliances of every type, price and make.

John H. Howard, Holme, near Peterboro.'—Mr. Howard runs the above very close with a still larger list of 72 pages. Among the

various goods illustrated and described are a good few novelties not obtainable elsewhere, all bearing the impress of the practical "bee-man."

We note that Mr. Howard is the sole agent in this country for the Porter Bee-escape.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

ERRATA.—We regret that by a printer's error in the first paragraph of Mr. Clutterbuck's communication (2274, p. 143), the words "all life" occurs in three separate lines which in each case should have been printed *cell life.*

Portable Hives for Lecturers.—Messrs. Lanaway & Sons, Warwick Head Works, Redhill, referring to the above and to query 1241 (p. 118 of B. J. for March 21), write to say that they are making hives in the portable form desired for the use of lecturers.

H. BALLINGTON (Matlock Bank).—*Advice for a Beginner.*—1. The best hive for a beginner is certainly not a "Wells." It would be obviously unfair for us to recommend any particular hive to the detriment of many others equally as good, and we make a point of never doing so. Buy a simple hive, costing about 10s. 6d., and decide upon your own preference when you have gained a little experience. 2. White clover and heather are the main sources of honey in this country, but we do not recommend "sowing the former under garden walls." It must be plentiful in the meadows and pastures around to benefit the bee-keeper to the full. 3. Get a catalogue which includes tools for hive making. 4. Any respectable dealer will guarantee the bees he sells free from disease.

H. DEACON (Westbury).—*Re-queening Hives.*—1. So long as the stock in frame-hive continues to do well there is no need to trouble as to age of queen or about re-queening. It is only when the colony fails to make headway that either the queen is at fault, and that her fecundity is failing, or there are grounds for suspecting disease in the hive. 2. If the "cap" (or top) now on the skep contains no brood, it may be removed so soon as natural food is fairly plentiful, and as this removal will considerably reduce the capacity of the skep, it will increase the chances of an early swarm from it.

CHAS. E. BEALE (Cork).—Comb marked No. 3 is free from disease, but, being very black and old, it sadly needs renewing. No. 4 has slight traces of foul brood in it. The sample marked with name (W. F.) is distinctly affected with foul brood.

F. BRIDGETT (Cheadle).—*Bees Refusing Syrup.*—If the bees are well supplied with food there is no cause for alarm. An examination of the feeders might, however, serve to explain why the syrup is not being taken.

E. OLDHAM (Ashton-on-Mersey).—The débris sent affords no clue as to the presence, or otherwise, of foul brood in the hives from whence it was taken. Only a sample of the brood-comb will settle the point.

BOSTON.—*Transferring Old Combs.*—If you you really intend to transfer combs from skeps to the frame hive after swarming, the proper time to do it is twenty-one days after the issue of the first swarm. It is, however, not worth while to transfer old combs unless they are in very good condition.

J. R. TRUSS (Stamford).—*Dysentery: What Causes it?*—If our correspondent will refer to Mr. Sharp's letter (2284, p. 134) he will find it is an entire error to pre-suppose that "Mr. Sharp asks for information as to the cause of dysentery." Mr. Sharp puts the query, only to answer it himself, from the knowledge gained by experience in his own apiary; and so far from requesting readers of the B.J. to help him in finding out the cause of his trouble, the last paragraph of his letter makes it clear that he now knows all about it. The words are, "the cause of dysentery is very plain, and the remedy is not far to seek." "I am sanguine enough to believe that I shall never again suffer any loss from this evil." In view of this our correspondent will no doubt agree that it would be somewhat superfluous to advise "ventilation and good thick syrup, given early," etc., to so experienced a bee-man as Mr. Sharp, whose main object in writing was, no doubt, to show what bad results sometimes follow wintering bees on natural food gathered late in the year.

A. HAMSHAR (Chilworth).—1. By all means use either shallow frames for extracting, or else a rack of sections for surplus in preference to a straw super. 2. In melting combs for wax, they should, if possible, be subjected to moist, not dry heat. Many simple contrivances for doing this may be found described in back numbers of B.J. 3. The time a swarm takes to fill its hive with combs depends very largely on the amount of honey obtainable outside or on the artificial food supplied, if weather is unfavourable at the time. Sometimes they fill the hive in four or five days.

Editorial, Notices, &c.

BEE-KEEPING AND THE BOARD OF AGRICULTURE.

DEPUTATION TO THE PRESIDENT OF THE BOARD.

Arrangements have now been completed for the deputation appointed by the British Bee-keepers' Association, and representing the bee-keeping industry of the United Kingdom, to wait upon the President of the Board of Agriculture, who has arranged to receive the deputation on Tuesday, May 7, at his residence in St. James's-square, W.

As our readers are, no doubt, aware, the purpose of those who will be present on the occasion is to urge upon Mr. Herbert Gardner the need for the official recognition of bee-keeping by the Government in order to obtain reliable statistics connected with the industry along with the ordinary agricultural returns, and, if possible, to secure compulsory powers for dealing with the disease known as foul brood among bees.

It is expected that the deputation will be an influential one, several noblemen and gentlemen—including members of Parliament—known to be interested in agriculture and its kindred pursuit of apiculture, having been invited to take part in the proceedings, and some have already intimated their intention to be present.

THE "ROYAL" SHOW AT DARLINGTON.

We wish to call the attention of readers—who are either bee-keepers or appliance dealers—to the date upon which entries close for the above important exhibition, viz., May 1. This is the last opportunity we shall have of mentioning the matter, our next issue being too late for making entries. In view also of the lateness of the present season, it may be well to print the "Special Notice" to exhibitors, giving the opportunity for entering at once, with the favourable proviso of insuring a return of the entrance-fee in the event of non-ability to send the proposed exhibits.

The notice reads as follows :—

"In the event of exhibitors in Classes 324, 325, 326, and 328 (for honey gathered in 1895), not being able to send their exhibits, owing to unfavourable weather for honey gathering, the entrance-fees will be returned, provided that six clear days' notice has been given of their inability to send such exhibits.

"In the absence of exhibitors, the British Bee-keepers' Association will undertake the sale of exhibits."

A large amount of interest is being aroused among northern bee-keepers in the Darlington show, and it is expected that not only will the attendance of bee-men thereat be large, but business brisk. We offer this as a hint to dealers at a distance, who will, it is hoped, be able to turn the occasion to profitable account by appearing as exhibitors and salesmen. There are also four classes for honey in which that of previous years is eligible for competition, so that the show does not rely entirely on the produce of the current year. Moreover, there are nearly two months between close of entries and date of show, in which to do the "gathering" for '95, so we urge prompt entries between now and Tuesday next, the 30th inst.

WARWICKSHIRE BEE-KEEPERS' ASSOCIATION.

The annual meeting of the Warwickshire Bee-keepers' Association was held on the 11th inst. at the Grand Hotel, Birmingham. Major Deykin presided; and among those present were Mrs. J. R. Young, Mrs. J. N. Bower, Mrs. E. Sargant, Mrs. A. L. Bayley, Mrs. Evans, Mrs. Kenrick, Miss Robinson, Mrs. Allen, Mrs. Brooks; and Messrs. C. Allday, W. Allday, G. H. Hooper, J. L. Hawkes (hon. auditor), J. Simkins, Boothroyd, T. H. Bower, H. Bower, Percy Leigh, J. R. Young, J. N. Bower (hon. secretary), J. R. Ingerthorp (assistant secretary), J. J. James, W. B. Webster (expert), W. E. Perks, A. H. Foster, &c. Apologies for absence were received from Lord Leigh (Lord Lieutenant), the Earl of Warwick, Mr. P. A. Muntz, M.P., and the Right Hon. Jesse Collings, M.P. The chairman congratulated the members on the fact that bee-keeping was very much on the increase throughout the country, so that, instead of having thousands of pounds of honey imported annually from abroad, we were now producing large quantities, and had to spend only a small amount of money for foreign honey. To cottagers, bee-keeping was a very essential thing. It enabled them very often to pay their rents, and if a man had good luck he ought to make from 30s. upwards of profit on each hive. With regard to foul-brood, he understood that the British Beekeepers' Association were endeavouring to get an Act passed for the suppression of foul-brood among bees. If that were done, the yield of honey would be much greater, and there would be no fear of disease. Mr. A. H. Foster, in moving the adoption of the report, said he thought that the Board of Agriculture should take the matter up with the view of learning what was the average yield of honey

in this country, and other matters in connection with the industry. He was glad that the Warwickshire County Council had taken bee-keeping up in connection with the dairy school at Whitacre. This would be favourable to the Association rather than otherwise. The motion was carried unanimously, and the officers were re-elected, namely—the president (Lord Leigh), the vice-presidents, the hon. treasurer, secretary, and assistant secretary, and the expert, with the whole of the committee, the usual votes of thanks being passed. The proceedings concluded with a lantern-lecture by Mr. Webster on "Foul-Brood."

IRISH BEE-KEEPERS' ASSOCIATION.

The annual general meeting was held on the 18th inst. The report, which was adopted, shows an increase in the number of members. The operations for promoting bee-keeping under the Congested Districts Board had been fairly successful in Mayo, and remarkably so in Donegal. The new arrangements for facilitating the conveyance of honey had worked satisfactorily. At the association's depots a large amount of honey had been sold, and the price of sections well maintained. Two important lectures had been given at Blackrock, and a conversational meeting held in Dublin. A new departure had been made by the issue periodically to members of a circular giving seasonable hints on the management of bees, as well as short items of association news. The committee were supporting the British Bee-keepers' Association in their efforts to obtain legislation for stamping out foul brood with compensation to owners of stocks destroyed.

A vote of thanks was passed to the Royal Dublin Society for offering prizes for hives, bee appliances, and honey at the spring show.

Three new members were elected on the committee; Messrs. Isaac Crawford, Thos. A. Govan, and T. Kirwan. The president, vice-president, treasurer, and secretaries were re-elected. Inquiries as to terms of membership, &c., should be addressed to Henry Chenevix, hon. sec., 15, Morehampton-road, Dublin.

LIMNANTHES DOUGLASII.

Limnanthes Douglasii is one of our prettiest annuals, and is perfectly hardy. It is a native of California, and was introduced into this country in 1833. It belongs to the order *Geraniacew*, and the name is derived from *limne*, a marsh, and *anthos*, flower, and has reference to the habitat of the plant. It is a very showy plant, with a spreading habit and prostrate stems. The leaves are alternate cut and exstipulate. When grown in masses it is usually covered with bees, as in good soil it yields nectar freely. Although a marsh plant, it is not at all particular as to soil, and, provided this is rich, flourishes in any sunny spot, and keeps in bloom for about four weeks. Its propagation by seed is very easy. Sown in March or April, it will flower during the summer; but for spring blooming it should be sown in August and September. The plants should be thinned out to 9 in. apart. Those removed can be transplanted, but will not grow so vigorously as others not disturbed, and

LIMNANTHES DOUGLASII.

will generally flower a little later. In this way the flowering period can be prolonged. No garden should be without it, as, apart from its beauty and ease of cultivation, it is very useful to our bees. The seed should be gathered as soon as ripe.

DEATH OF MR. T. BADCOCK.

Many readers of the BEE JOURNAL will regret to hear of the death of Mr. Thomas Badcock, late schoolmaster of Southfleet, which occurred on Sunday, March 31. Deceased, who was educated at St. Mark's College, Chelsea, had been suffering from heart disease

for some time before his death, and was obliged in consequence to resign his duties as head master of the schools six months ago. He was an ardent bee-keeper, and took great interest in all subjects connected with bee-keeping, and in his quiet, unobtrusive way always willing to give advice and help to any one in need of such. Mr. Badcock was a certificated first-class expert, and was at one time a member of the Council of the Kent Bee-keepers' Association. He also wrote a series of articlee on Bee-keeping for the *Gravesend Standard*.

As a science teacher he was most painstaking, and for some years taught classes in botany and agriculture at the Higher Grade Schools, Gravesend, also at Dartford, Swanley, Eynsford, and other places. Three years ago he gained the bronze medal for agriculture, being second on the list for all England. He will be missed by a large circle of friends, and much sympathy is felt for the widow and large family, who are totally unprovided for.—*Communicated.*

[We very willingly bear testimony to the regard in which Mr. Badcock was held by many bee-keepers who, along with ourselves, had the pleasure of his personal acquaintance, and would be only too glad to hear of an effort being made for the benefit of his widow and ten young children.—EDS.]

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2038.] I notice that on page 136 our candid critic, "Western County," thinks it is time for some of the regular correspondents of this journal to lay down the pen, or, in common parlance, "dry up." Feeling that this is a direct thrust on myself among others, I reply for myself only (leaving others to do the same, if so disposed) that so soon as I feel I have written myself out, or that my "Notes" are of no further use in the field of apiculture either for its advancement or sustaining the present standard of the craft, I am ready and willing to wipe my pen, and place the stopper in the ink-pot. That "writers repeat themselves" may be true, as found in every trade journal in replying to questions. I myself get a number of letters during a year asking for reply by post or in my next "Notes." Why should I spend several hours in hunting up back volumes to give correspondents a reference—and possibly the number in which a general reply appeared is out of print—when I can write a "Note" in a minute or two?

Does Bee-Keeping Pay? En passant, I must say that the expenditure of £11 on ten hives (established stocks, I take it, of previous year) incurred by your correspondent Mr. Routh (2286, p. 136) is a very large item. In fact, it seems hardly credible to one who has always, like myself, endeavoured to keep down expenses in the management of the apiary to find a bee-keeper spending over £1 per hive in expenses. No wonder our bee-keeping friend is convinced that bee-keeping under such a system does not pay.

What of compulsory powers? Is there any hope? Are our to-be inspectors being trained, ready to take prompt action when the power is obtained to send them off on their mission? I opine Mr. Routh had been reading the *American B.J.* for March 14 when he wrote about the bee-keeper's capital disappearing in *smoke* at the hands of inspectors.

Some Questions on "Examinations."—In the forthcoming examinations on foul brood, are our examiners going in for exams. on the theory of foul brood? If so, may I ask (1) is it an established fact that bacilli are the cause or the effect of foul brood? And if on the premises that the practical is of more value than the theoretical in the matter, on what lines will the examination run? (2) What practical work will be undertaken by these embryo parchment holders to eradicate the pest of which they start in quest? Will these candidates be required to prove that they have already had a long, weary fight with the invisible enemy? or will any one possessing good retentive powers read up one or two works on the subject, and sail into port, through the rocks of Scylla and the dangers of Charybdis, on the barque of a good memory, without having any practical knowledge of the disease?

The proposition in your correspondent's letter (2297) on page 147, if carried out, would place the keepers of foul broody bees in the public pillory. Now this is the very opposite of what is done in Canada. There, as I understand, only the highest official is acquainted with the name and location of the owner of a diseased apiary by the inspector, so that when the apiary is freed from the disease the owner should be able to trade in the usual way as soon as he gets a certificate from the inspector stating that his apiary is freed from the disease. The knowledge that the British Bee-Keepers' Association intend to take action on the foul brood question is beginning to get known. I have been offered two small apiaries during the past week at my own price (no foul brood in the neighbourhood, so far as I am

aware), because they "have heard say as how people's bees is goin' to be burnt if they bean't well." I declined the bargains, even at my own price. Another item.—I was at the house of a neighbour (a large farmer and a C.A.). He told me he had tried to start his workpeople with bees by giving them a swarm each as a start, but some of them would not have the bees at a gift unless he would consent for them to do as they liked with them afterwards, *i.e.*, sell the bees first opportunity. This shows that modern bee-keeping is not favoured or appreciated by the agricultural labourer. The number who keep bees are a fast diminishing quantity in this part of the country. As old bee-keepers die out, the sons take up or sell out the long-established little apiary, and the bees that "paid the rent" are a memory of the past. There is no survival of the fittest in these instances; it is rather senility in the craft. This leads one to take a prospective flight, and ask, What of the years to come? Who will be the bee-keepers of the future? Who will sustain the reputation of West Berks in the next decade in the apicultural world? Will it be the proprietor of the "apiaries in Berks," for which an advertisement in your pages was asking capable men to speak out for the management? That, I opine, will be the method of honey-producing in the future; men will make a specialty of bee farming. The seasons of the past few years have not been such as would warrant any one in investing their all in bees and appliances, though, perhaps, a cycle of years may follow in which environments may conduce to big "takes" of honey. Electrical conditions suitable to good flows of nectar may follow season after season, and cheer the heart of the manager, and pay a fair percentage on the invested capital to the proprietor. Then when our inspectors have rid the craft of foul brood, and our future bee-keepers have bred a race or strain of vigorous bees by introducing new blood, and paid the attention the subject deserves to the male portion of the colony, then and not till then we may hope with suitable seasons that bee-keeping in the future will equal if not excel anything in the chronicles of the bee-keeping in the past.

The thought struck me as I penned the above paragraph that a word in favour of the drones would not be out of place. We are now at the commencement of the breeding season of 1895, and are hoping to rear fine queens—queens noted for long life, prolificness, vigorous progeny—yet what of the drones? Look through the back volumes of the books on bees, or into the current bee literature of the day, and note the paucity of articles on drone-rearing. They teem with matter on queen-rearing, from old Nature's way to the artificially model formed cell, in which the "Royal food" is placed in larger proportions than if left to the natural instinct of the bees; the "master hoping to thereby increase the size of his queens," &c. I ask what is done for the drone by the modern bee-keeper? Full sheet of foundation on which the bees may possibly insert a few drone cells along the bottom edge of each comb; no special comb allowed of which a large part is naturally-built drone-cells, inserted in a strong colony noted for its good points, so that the drones reared in these best stocks may embody the vigour and strength necessary for the perpetuation of a strain of vigorous offspring! Some one may say "how shall I proceed to insure fine, sleek, fat, vigorous drones for the coming season to mate with my queens?" Well, about the middle of May insert a frame in the centre of your strongest stocks having only a starter of foundation, and the bees will build a fine new comb almost wholly of drone-cells for you, and the queen will stock it with eggs. Then your apiary, if it is isolated, will want some manipulation of stocks to prevent, as far as possible, the chance of drones and young queens from one hive mating. Only study of the subject and knowledge of the age of your batch of queen-cells will enable you to confine the drones in any hive to prevent in-and-in breeding. — W. Woodley, *Beedon, Newbury.*

[We do not precisely know to whom the questions put by our correspondent are addressed, but bearing in mind that our connection with the matters referred to are not only editorial but directly official—owing to our position on the committee appointed by the B.B.K.A. to deal with it—and that an answer will, reasonably enough, be expected, the task is perforce ours.

Before replying, however, to the questions enumerated, we must confess our inability to quite understand what is meant by the inquiry at the outset, "Are our examiners going in for exams. on the theory of foul brood?"

For the rest, we reply (1) by asking, What does it signify in dealing with the eradication of the disease? (2) Mr. Woodley seems to mix up the questions, first, of passing an exam. for expert's certificate, and, second, qualifying for the position of inspector under an Act of Parliament. It need hardly be said how wide is the difference between the two. And, so far as the last-named, it may be safely taken for granted that none but those who have had thorough practical experience in dealing with foul brood will be appointed inspectors.

On the general question of "compulsory powers," as dealt with by our correspondent, we may again refer him to the terms of the Suggestions for incorporation in the proposed bill drafted by the chairman of the B.B.K.A., and printed in B.J. for January 31 last, since which time several amendments and suggested improvements have been adopted by the committee. These will appear in our pages shortly, and we might suggest that anyone disposed to criticise or to anticipate results favourable or otherwise, will bear the wording of the proposed Act in mind, and see how far

it meets the case. We also charitably assume that every one concerned will believe that good and not harm to bee-keeping is intended by the certainly not inexperienced bee-keepers who have the matter in hand.—EDS.]

BEE JOTTINGS.

FROM HIGHWAYS AND BY-PATHS.

[2039.] *American Antiphrasis.*—"Too many cooks spoil the broth" is a trite saying, and may, I think, be very justly applied to the *American Bee Journal* so far as the special column devoted to "Notes and Comments" by one of its many editors. To say that the general tenour of the "Notes and Comments" in question are in bad taste hardly fits the case; the editor in question is either terribly hard up for "copy" or deliberately desires to discredit the teaching of a contemporary. Not a very exalted aim, one would think, even if there had been any justification for his comments, and utterly inexcusable when there is none.

The first "Note" is entitled, *What are they?* and deals with a paragraph in the "Useful Hints" column of B.B.J. for January 17, page 22, where, in dealing with the question of foul-brood legislation—and to make the matter clear to readers—you quote certain clauses from the Contagious Diseases (Animals) Act dealing with swine-fever, and then go on to say: "After careful perusal of the full text of the above Act it seems safe to say that its provisions—as laid down therein—do not meet the case of insects, and *by no stretch of the imagination can bees be classed as animals*" for the purposes of the Act quoted.

Now, any one possessing a grain of common sense would surely have understood both the words and the intent of the above; but no, the enlightened editor in question, without giving his readers the slightest clue to the context, picks out the words I have italicised, talks of the "three kingdoms" of which he has a faint remembrance, and says, "Surely bees are not vegetables or minerals?" Had he quoted the subject matter, or given some clue to what was being discussed, it would require no stretch of the imagination to arrive at the conclusion that, although a bee is classed among small animals, yet, for the purposes of an Act of Parliament, it could not by any possibility be dealt with under the clauses of the Act, which Act formed the subject of your remarks.

I should not have noticed this matter, but in the following week's issue of *Am. B. J.* the same sort of thing again occurs, this time under the heading, "*Nor any other time.*" This is also stated to be an "editorial in B.B.J.," which is said to run thus:—"Open-air feeding should not be started too early in the spring, and only when the weather is warm. The food should also be very much thinner than ordinary bee syrup." Then the same embodiment of enlightenment—viz., one of the many editors—goes on to remark:—"It seems strange to me to have an editor of a bee paper explain how or when to feed in the open air." I trust that *our* editors will pardon me for taking up the cudgels on their behalf, but I know they are averse to noticing this sort of thing themselves. But let us see what the facts of this case are. Firstly, I can find no one case in B.B.J. where its editors have ever recommended open-air feeding, but I find many instances where they have advised their readers *not* to do so. Secondly, the quotation referred to is not from an "editorial" at all, but forms part of a reply given by way of a caution to query (1229, p. 68, B.J. for February 14), which query reads thus:—"Last spring I fed my bees (and I expect some of my neighbours' bees as well) by the plan recommended by an expert," &c., and the querist goes on to say—"but I found a large number of bees unable to fly back, and some dead. Can you tell me the probable cause?" &c., and in reply you, Messrs. Editors, used the words of caution above quoted. Surely a high-class bee-journal like the A.B.J.—with plenty of talent employed in its production—should employ that talent in other ways than obtaining even "Notes and Comments" by such dubious methods as those to which I have called attention. I call it "playing a bit low" (to use a vulgar phrase), even though some may regard it as what the writer of "Notes and Comments" calls "a hint to the wise." That it is misleading there is no doubt, but I go further and say it is not quite honest and straightforward. Fair criticism should be always welcome, but to go out of one's way to pervert the sayings of others may in some countries be considered "cute," but it does not alter the fact that here we should certainly consider it bad taste, if not distinctly savouring of dishonesty.

Melting Point of Bees Wax.—As a result of experiments on the above, detailed in *Gleanings*, the melting point of "pure white wax is 156 deg., entirely liquid at 160 deg.; pure red wax at 160 deg., entirely liquid at 166 deg.; new wax 153 deg., entirely liquid at 159 deg." Now, if the lower figure in each case is the melting point, what has the higher figure to do with it? If we find wax melts at 153 deg., it is but a question of time and bulk to reduce any quantity of wax to liquid condition at that temperature; true, the higher figure will cause the wax to liquefy more quickly, but does not give the true melting point. All the figures, in my opinion, are too high by two or three degrees—although, as *Gleanings* point out, "dirt and repeated melting may raise the figures, and that fresh wax from the hive may account for the difference."

Concerning Wax.—The report by Frank T. Shutt, M.D., F.I.C., states that "Dumas and Milne Edwards found that bees fed with 500 grammes of sugar produced 30 grammes

of wax, the same weight of honey only yielding 20 grammes. It would also appear that, although pollen is not absolutely necessary to the production of wax, its consumption by the bees greatly reduces the amount of honey or sugar otherwise required (Berlepsch.). From this it becomes evident that wax is secreted, primarily at the expense of the tissue, and secondarily of the food consumed. — *Canadian B.J.*

What to do with Weak Colonies in Spring. —Good advice is given by Dr. C. C. Miller in the *Am. B.J.* when he says :—"I used to take a great deal of pains to try to nurse up such little weaklings as come out half-dead-and-alive, with very few bees in them. Sometimes I'd give them brood from a strong colony to help bring them up. The idea was that if there were one very strong colony and one very weak one, if I let them alone the weak one would die, and then I'd have only one colony, but if I gave the weak one brood from the strong colony, then both would live and I'd have two colonies. But giving brood from the strong didn't strengthen the weak as much as it weakened the strong. Then I tried uniting the weaklings, but somehow four or five of them together seemed in a little while to be just as weak as if they had been left separate. So I finally settled down to unite a weakling with a good colony, for the good colony would thus gain a little in strength, and, even if it didn't, no harm would be done, for the weakling was good for nothing any way. When they first begin to fly they'll unite without any difficulty."— H. W. Brice, *Thornton Heath, Surrey*.

HONEY PLANTS.

[2040.] I have lately got hold of a copy of Root's "A B C of Apiculture," dated 1883 (I suppose this is not the latest edition), and I there find a description of a most wonderful honey plant, "The Spider Flower" (*Cleome pungens*). Mr. Root says of it : "With the aid of a teaspoon I dipped honey enough from three or four plants to fill a two-dram vial, such as we use in queen cages, a little more than half-full. The honey in some of the flowerets had collected in a quantity so large that it spilled out, and actually streamed on the ground!" The "A B C" also describes another plant in glowing terms, viz., the "Simpson Honey Plant," or figwort (*Scrofularia nodosa*) I should very much like to know whether these plants have been grown by bee-keepers in this country, and with what results?

I take this opportunity of backing up the request of "Justitia" in B.B.J. of April 11 (2297, page 147), that correspondents who write to you about foul brood should have their names and addresses in the reply column printed in full, especially if the comb, which has been examined shows that the disease exists in their apiaries. I am thankful to say that we in this immediate neighbourhood do not yet, from practical experience, know what foul brood is, though rumour says it has come within four miles "as the crow flies."

All my twelve stocks have come through the winter safely, and only two seem weak, but I hope they will build up before the clover blooms at the end of June. Of course, all stocks are very backward, especially as compared with last year.—E., *Chester*, *April* 20, 1895.

[It need hardly be said that we shall always regard as strictly "private and confidential" any names sent us, &c., when so desired.—Eds.]

STAFFORDSHIRE NOTES.

[2041.] Staffordshire is a large county, well adapted for bee-keeping, yet I have not seen a report from it in your columns since I first read the B.B.J.

During a long ride on my cycle to-day I was pleased to see several cottagers had in their gardens a few bar-frame and "Wells" hives, neatly painted, and looking very well in most cases, but not a single skep was to be seen. A lot of people here say that at one time they have had some thought of keeping bees, but for some small reason have never done so. I think if the "County Council lectures" on this subject were a little more frequent (I have only heard of one twelve miles away) the number of *propriétaires des ruches* would be greatly increased. Pollen seems to be plentiful just now but honey scarce, but we are hoping for the pear blossom in three or four days, and the apples to follow in a week or so.

Stocks of bees came through the winter fairly well; none of mine have died, while I find those weakest last autumn have come out best in spring. A bee-keeper not far away lost six colonies. I hope all British bee-keepers will have as good a season as we are sanguine of getting.—Apiarius Invenilis, *Staffs*, *April* 20.

SPRING NOTES FROM MID-DERBYSHIRE.

[2042.] Winter past, spring at last; and what a winter, too! one not likely to be soon forgotten. The bees have evidently forgot the past, and are making the best of the present. Vegetation is very backward, consequently there is just now little to gather, either in the shape of pollen or nectar; but for the *artificial* pollen-basket (or pea-flour skep) and syrup, my bees would have been backward, too, but they have wintered better than I ever remember (though many were weak), and are in quite a forward condition. Yesterday I noticed an immature drone cast out of a skep, showing that early drones are on the way. I attribute this to a small but regular supply of syrup and plenty of pea-flour.

Thanks to genial old Sol, fruit blossom is coming on well, and in a week or two honey will be being gathered from it. It is sur-

prising how readily queens will take to foundation in preference to old comb. On Easter Monday I examined nine stocks that each had a frame with foundation inserted on Good Friday, and found in seven lots the combs were built out, and had eggs laid in; some of the new combs simply packed with eggs. Apart from the risk of beginners overdoing it, this comb-building in spring makes it profitable to melt up old combs more often than is usually done. It is to be hoped the deputation of bee-keepers on the foul-brood question will meet with ample success to reward the council of the B.B.K.A. and our editors for their never-tiring energies on behalf of bee-keepers in general. The question is a big one to grapple with, but not insurmountable with the right men at the wheel. I think, before we can say adieu to foul brood, we must say good-by to the skep system, as the risk incurred by the purchase of driven bees is great. Who, for instance, can tell upon lifting a skep whether or not it is slightly infected? True, I have bought driven bees, but always with a certain amount of fear. Once a law is in vogue that will deal effectively with the disease, and with the careless, ignorant, or (worse than all) unfriendly bee-keeper; and the industry will prosper. Meantime, we must "wait and hope."—H. Hill, *Ambaston, Derby, April* 20.

FOUL BROOD.—PREVENTION BETTER THAN CURE.

[2043.] Having read with much interest nearly all that has been written on foul brood for some months past, and the experiences given by those who have attempted its cure, I would, with your permission, like to give an opinion which I have with regard to one of its most fruitful causes.

The honey-producing industry is, like most others, carried on at high pressure. In the old times, if a skep when taken up in autumn should approach 3 st. in weight, it was registered as a "record;" but now to hear of cwts. taken from a hive, and even tons of honey taken in a season from one apiary, convinces the thoughtful man that there must be a great amount of stimulating effort on the part of those owning apiaries. I am not writing as one having had any experience with the disease—never having seen it—but taking a common-sense view of the methods practised, especially at this season of the year, by a great many in the stimulating effort, I have no hesitation in saying that the constant use of drugs in the syrup given to bees is a more fruitful cause of foul brood than of its spreading by infection. It is well known that food, pure or impure, has a very great effect upon females, through all the range of creation, but especially when in a state of fertility. But in order to make as plain as possible the theory which I hold, that the impure food given to bees produces disease, I wish to draw an analogy between laying hen and the fertile queen bee. It has been demonstrated over and over again, that when a laying hen is for the most part fed on Indian corn, a very small percentage of her eggs hatch out, and of such chicks as do struggle into existence, most of them die just when getting their breast feathers. Whereas if the same hen has sound oats as its staple food, the eggs are more fertile, and the result is a larger number of healthy chicks.

This theory, to my mind, applies to the fertile queen bee, her structure being so fine, and her susceptibilities so keen. Seeing that in so many instances she is obliged either to live upon medicated syrup or die, she clings to life, consequently the vitality of her eggs is so seriously affected that they are produced under unnatural conditions, their vitality impaired, and, as a natural result, the brood dies in different stages of incubation. And very often the nurses attending the hatching brood, on account of unfavourable weather, are obliged to give the same food, which has already previously weakened *their* constitutions; consequently dead brood in various stages, and such as struggle into existence being enfeebled, the drone, or male bee, not excepted. No wonder that there are so many plague spots, and to my mind will continue to be, even after compulsory powers may have been obtained. What we bee-keepers want is the exercise of common sense in the treatment of our little toilers by giving them healthy food, pure syrup from pure cane sugar, clean and healthy habitations, then—and only then—will they bring in the much wished-for return.—J. Barker, *Winton, Kirkby Stephen, April* 17.

[Without discussing the somewhat abstruse theory advanced by our correspondent, we would just observe that its fatal weakness lies in the fact that the great majority of our most successful bee-keepers, whose apiaries continue healthy, and whose bees prosper, invariably medicate all artificially-prepared food given to their stocks. On the other hand, those who fail in using preventives against foul brood are only too often the owners of weak, unprosperous, and diseased colonies.—Eds.]

DO BEES PAY?

[2044.] Your correspondent, Mr. Brice (2300, p. 154), supplies your readers with an excellent example of how to cook an account, and this is how he does it:—

"Capital expended ten years ago £30 0 0
Last year's outgoings 11 5 4

Eliminate these, and take in their stead the present value of hives and bees, £5; now take the gross receipts of last year, £13. 13s. 10d., and you clearly have a profit of close upon 300 per cent.!"

Let us try some other commercial enterprise on the same lines—say a mine (for bee-

hives are supposed by some to be mines of wealth) :—

Capital raised ten years ago	...	£30,000
Last year's working expenses	...	11,000
Present value of property	...	5,000
Gross receipts of last year	...	13,000

and on these figures Mr. Brice proclaims a dividend of 300 per cent!

Now, Messrs. Editors, it is exactly this way of twisting solid facts that made me try to raise a discussion in your journal on the question, "Does Bee-keeping pay 'for the small Bee-keeper?'" Do those men who sometimes give us wonderful accounts of their bees' doing, and balance-sheets, with the balance always on the right side, take everything into account? Interest on capital expended, time spent over hives, wear and tear of clothes (in my case Mr. Brice quietly skips all these), depreciation of plant, carriage of goods, postage, subscription to association, &c. I rather doubt it. I know my eyes were opened considerably when I set down all that I spent because of bees and of my connection with bee-keeping. I do not exactly know why Mr. Brice calls me "unfortunate." I think I am very lucky, for I have no foul brood in my apiary, and my bees are a great pleasure to me. I demur to his stating that I have wasted my money, because he does not know how I have spent it. I prefer to see a neat, well painted hive in my garden, rather than an old soap-box with a sack and a piece of zinc tied over it; but I must not let my pen run on or you will never print my letter.—ROBERT S. ROUTH, *Longstock Vicarage, Hants.*

[We think that—so far as the *personal* aspect of the question goes—this discussion may now be allowed to drop.—EDS.]

STRAW SKEPS FOR WINTERING.

[2045.] This remarkable winter, followed by a season which, I suppose, all are agreed may be termed very far from good, if not decidedly a bad one, not only in respect to honey-storing, but also on account of the small quantity of brood in the hives in the early autumn and the larger consumption of stores during the mild weather up to Christmas, has resulted in a greater loss of bees than, I imagine, almost the oldest bee-keeper can remember. I have lost all my bees of six stocks in single hives and one or two (?) in a "Wells" hive, while two skeps of my own and two of a neighbour's are apparently in good condition, working vigorously and carrying pollen, and busy at the water from morning till evening when weather permits; and this result was unexpected, for Stock 1 was a *very weak*, small, second swarm, which was given me as useless; however, I fed it rapidly with about 20 lb. of syrup, and I am rewarded. 2. Was a first swarm, which I bought on October 8, and fed a little. 3. An old stock in a neighbour's garden, with no protection but two tiles on the top, in a very old skep. 4. A swarm in the same condition. I am not a "skeppist," but my belief in the excellence of the skep for wintering is confirmed. It is on this point I should like to hear the opinion of brother bee-keepers with more experience than myself. As to the cause of the loss of my other bees, let the verdict be bad management, neglect, or anything you please, but I trust my brother bee-keepers will not ridicule me unmercifully, as I am very "down in the mouth," and have had already as much as I can bear at present! I have kept bees for several years, and have never lost but one stock before. One other remark I will make, and that is that I do not intend to try dry Porto Rico sugar on the top of the frames laid on thin paper, which I did this year, and which in other years has been fairly successful—a plan which, I think, was recommended in B.B.J. about ten years ago.—A. P. J., *Norfolk, April* 18.

BEE-PLANTS.

[2046.] Your remarks on p. 141 made me regret I did not know sooner, for within a month I have made away with a full gallon of seed of Chapman honey-plant. Perhaps you may remember my offering through the B.B.J., some two years ago, to send seeds to any one forwarding a stamped envelope to me. Your being "taken aback!" caused me to laugh at the remembrance of my own experience, and the piles of letters arriving morning after morning for several days. Not only was I taken aback, but our postman, with arms full of letters morning after morning, was dumbfounded. "Whatever does it all mean?" said he. I counted up the time expended in what you call "filling orders," and found it took me about three entire days!

I have grown the "Chapman" for seven years now, and believe it to be a very good honey-plant. I only sowed it once, since which time it comes up from the old stem, and hundreds of young plants from self-sown seeds. There are just now thousands of seedling plants that I would gladly give away to bee-friends if called for in a week or two, but they would be smashed up in post.

Another bee-plant which I strongly recommend is the white rock ("ragged Jack" some call it). To my mind it is the first and best bee-flower that grows in early spring. Four years ago I bought for 1s. two dozen plants, set them out 9 in. apart, and now I have a bed of it 15 ft. long and 3 to 6 ft. wide, with two other beds, 6 ft. square, planted out last year after the bloom had finished its two months of blooming. These, too, are now a "sight" for a bee-man to see, and any living within reach will be welcome. My man tells me that when in the garden to-day he saw at least a thousand bees working on it at one time.

My bees (eleven frame-hives and eight skeps) have, I am pleased to say, come through the

severe winter well. They had plenty of natural stores when "packed" last autumn, and I just peeped beneath the quilts of frame-hives six weeks ago, finding food plentiful. The stocks in skeps also are alive and hard at work now, appearing to be somewhat stronger than the frame-hives; but all are carrying in pollen fast.

I had—along with my bees—a rough bit of experience with the late storm. I was a little distance away from home about 3 p.m., when a message reached me: "Come at once; the bee-hives are rolling about in the garden like footballs." Hurrying down, I found one skep upside down, blown as far into a corner as the wind could take it, the bees huddled up together for warmth. Two frame-hives stood on end, carried clean away from their stands, roofs gone off several hives, quilts, and loose fixings flying about in all directions. We gathered all up, replaced coverings as well as we could, weighting roofs down with bricks, &c., and after two hours' hard work got things fairly straight again, and I sat down to my tea, thankful it was no worse.—GEORGE BREALEY, *Grendon, Northants*, April 14.

[We are rather pleased than otherwise to have some corroboration of our own experience in regard to the applications for seeds. And if our correspondent's letters on the subject even approached *ours* in bulk, we can well understand his three days' work in "filling orders." Anyway, it has been extremely gratifying to find the B.B.J. so very much *en evidence* among bee-keepers as to call forth so large an amount of interest in bee-plants. Personally, we do not for a moment grudge the labour involved in sending seed to many hundreds of applicants, whose thanks are due less to ourselves than to those who supplied the seed, especially to our correspondent, Mr. H. W. Brice, the hitherto anonymous donor of the first packet distributed some weeks ago.—EDS.]

Queries and Replies.

[1256.] *Wax Extracting.*—1. I have a hive 24 in. long inside measure, and wish to turn it into a "Wells." How shall I manage? 2. Shall I have to use shallow-frames above for brood-nest? 3. What is the simplest and most economical way to extract wax in a small apiary of two hives? 4. Will it matter if I use half-sheets of thin brood-foundation (cut standard size) for shallow-frames, and must the foundation be wired? 5. Being away from home from 7 a.m. till 7.30 p.m., how can I best control swarming? 6. What is a fair price to give for a stock of bees on frames of comb at this time of year?—W. H. S., *King's Heath.*

REPLY.—1. A hive 24-in. long will only take about fifteen frames, therefore if divided into two compartments for working on the double-queen system (which we do not recommend for you under the circumstances), it will require a box of shallow-frames added over each division to enlarge the brood-chamber, just as Mr. Wells himself does in his own hives. 2. Yes, as stated above. 3. Refer to B.J., p. 156. 4. Thin brood-foundation will answer in shallow frames for extracting, but we should use full-sized sheets and have them wired in. If for breeding purposes only, half sheets will do, used as proposed. 5. Only by giving timely room, with plenty of ventilation and shade in hot weather. 6. A good stock of bees on frames at this season is cheap at 20s., irrespective of the hive.

[1257.] *Transferring Combs—Stimulative Feeding.*—1. When doubling stocks, as recommended in the *Guide Book*, is excluder zinc placed between the two body-boxes, or are both left for breeding purposes? 2. Will the bees at once pass up and keep the brood warm? 3. I bought a combination hive last year, which has very large-sized frames. I want to get rid of these, and have only "standard" frames in the apiary. How would you advise me to proceed so as to transfer the stock into another hive with the least loss? 4. Is it necessary or advisable to give syrup to a stock which has sufficient stores if you wish (*a*) to get an early natural swarm from it, or (*b*) to raise drones in it, or (*c*) to obtain queen-cells?—M. A., *Chester, April* 18.

REPLY.—1. As described in the *Guide Book* no excluder zinc is intended to be used, otherwise it would be so stated. 2. Yes. 3. You cannot do better than follow the instructions given for transferring combs from skeps to frames on page 139 of *Guide Book*. 4. To obtain the advantages named respectively *a*, *b*, and *c*, stimulation is a main factor towards achieving success, and "stimulation" means either slow and continuous syrup-feeding, or else uncapping at intervals of a few days portions of the sealed stores in the hive. The subject of stimulative feeding is also fully explained in *Guide Book*, p. 105.

[1258.] *Detecting Robber Bees and Queenlessness.*—I sometimes see a bee escorted outside of the hive by half a dozen or more of its fellow-workers, who surround it on the flight-board, and appear busily engaged licking or washing it all over whether it likes it or not. They then pull the bee about for a few minutes, after which it shakes itself, takes a fly round, and re-enters the hive. 1. Do you think the bees thus treated are young ones? 2. When pollen is carried into a hive, is it a sure sign the queen is there? I have to-day examined my eleven frame-hives, and find food plentiful in nine of them. The other two were short, so I gave to each a frame of last year's honey.—G. BREALEY, *Grendon, April* 18.

REPLY.—1. We rather suspect the bees overhauled as described are strangers caught in the

act of helping themselves at a cupboard not their own, and made to disgorge their plunder by the "escorting" bees referred to. 2. Though very strongly presumptive of the presence of a queen and breeding in a hive to see pollen carried in, it cannot be called a sure sign, for queenless bees do occasionally carry in a little pollen, as when a fertile worker is present, or when the bees are making futile attempts to rear a queen by building queen-cells.

[1259.] *Bees Transferring themselves to Frame-hives.*—About the middle of March I bought a light straw skep of bees, said to contain a cast of last year. Having carried it home, I placed it on the top of the frames in a frame-hive containing some honey, stored pollen, and dead brood, the former inhabitants not having been strong enough in numbers to carry quite through the winter. The bees in skep are now very busy carrying pollen, but they have not taken possession of the frames through which they carry their burdens up to their original quarters. Can I do more at this time to induce my little friends to go down lower?—PHILIP J. ASH, *Ruthin, North Wales, April* 22.

REPLY.—When the skep becomes over-crowded the bees will take possession of the lower hive, and breeding will be transferred to the combs therein. Nothing, however, can be done to hurry them down.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. F. WILLIAMS (The Rookery).—*Distance between Side-bars of Frame and Hive Sides.*—A quarter-inch is the correct distance from hive side, with half an inch between bottom-bar and floorboard.

E. JONES (Kidderminster).—*Drone-breeding Queen.*—Brood is chilled, not foul. The queen is also a drone-breeder, as shown by the lengthening out of worker cells and drone larvæ in them.

A. L. Y. M.—No foul brood in comb. Apart from the decaying dead bees in cells (which cause the bad smell referred to) there is nothing other than pollen. Probably dysentery has been the cause of the bees' death.

J. B. M. (Garforth).—1. Any good hive is "suitable for working for both comb and extracted honey," the question which hive is "best" being simply a matter of personal preference. 2. Pale yellow foundation made very thin and of good bees-wax is the "most suitable for sections."

O. BROWNING (King's Somborne).—*Experts' Certificates.—Handling Frames.*—1. Candidates for certificates must belong to a Bee Association. 2. There is only one way of properly turning a frame of comb while held in the hands. The method is fully detailed on page 97 of Cowan's *Guide Book*. The plan described as yours is entirely wrong, and would of itself tend to disqualify you as an expert.

J. PERRY (Pewsey).—*Does Wired Foundation Injure Brood?* — Comb foundation properly wired in the frames is in no way injurious to brood. The only way in which "wiring" may be objectionable at all is when it is not properly embedded in the mid-rib of the foundation, in which case some of the cells may be rendered useless for brood rearing.

J. G. WILLY (Addlestone).—*Glass Supers.*—In preparing square glass supers the upper surface is warmed sufficiently to slightly melt the wax of "starters" when pressed against the glass, the starters being fixed at the proper distance (2 in.) apart.

NOVICE (Knutsford).—1. You will find it far better to allow the bees in skep to swarm naturally, and hive the swarm in the frame-hive. Transferring bees and old combs to a new frame-hive is never desirable, while to a beginner dealing with his just purchased and (we suppose) only skep, it is courting disaster. 2. In working for sections of comb-honey the section-rack is set directly over the frames in brood-chamber.

CARRICK (Maybole, N.B.).—Queen sent has never been "mated," and has probably never laid an egg. She is physically unfit for use, wings and legs being imperfectly formed, and incapacitating her from flying, or even walking properly. If there is now no queen in the "box" referred to, it is simply a question of the bees being worth *re*-queening or not. They may be all so old in consequence of queenlessness as to be of no use either for uniting to another hive or for re-queening.

E. CARR (Kirkby Lonsdale).—*Chilled Bees.*—1. We can only suppose the bees to have failed to reach the alighting-board when pollen-loaded, and, falling to the ground, have clustered together for warmth. Warming at the fire would soon have restored them. 2. The "Guinea," as advertised. 3. Swarming cannot be entirely prevented; it can only be minimised by giving timely room and ventilation in hot weather.

A. R. C. NEWBURGH (Bantry).—*Colour of Super Foundation.*—Of the two samples sent we prefer the yellow to the white.

"BOX" (Feltham).—*Bees as Incubators.*—For particulars as to this, see B.J. of October 18, 1894, p. 417.

T. J.—The best time to deal with a diseased stock on the plan referred to is when the weather becomes settled and warm, and honey is being gathered.

*** *Conclusion of the Article on "Bee-keeping in Germany" is unavoidably held over till next week.*

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The next conversazione will be held at 105, Jermyn-street, on Thursday next, 9th inst., commencing at six o'clock. Members intending to be present, and being desirous of introducing subjects for discussion, are requested to communicate with the secretary.

AN APPEAL.

Since the notice in our last issue referring to the death of Mr. Badcock, and in response to the appeal made in the footnote appended thereto, we have received—or had promised—the following:—

BRITISH BEE JOURNAL and *Record*	£1	1	0
T. W. Cowan	1	0	0
E. D. Till	0	10	0
Miss E. A. Till	0	10	0
A. W. Harrison	0	5	0
H. W. Brice	0	5	0
H. M.	0	1	0

It need hardly be said how pleased we shall be to take charge of and acknowledge receipt of any further sums—large or small—which may be sent to this office in aid of the very laudable object to which the fund will be applied.

NORTHUMBERLAND AND DURHAM B.K.A.

The second annual general meeting of the members was held on Monday, April 22, at Lockhart's Café, St. Nicholas-square, Newcastle-on-Tyne, Mr. J. W. Wakinshaw in the chair. The following members were present:—Messrs. Wilson Ritson, J. Anderson, W. Pearson, J. Davison, W. Bean, J. Cuthbertson, J. C. Wilson, Geo. Gibson, T. Gardner, T. Dixon, J. Atkinson, T. Russell, J. Darling, and J. N. Kidd, hon. sec.

Several suggestions were considered for the working of the Association during the current year, and among other matters arrangements were resolved upon (1) for excursions to the apiaries of leading bee-keepers in the locality; (2) to promote a bee-department in connection with the chrysanthemum show to be held in Newcastle in November next; (3) to make arrangements with the County Councils of Northumberland and Durham for the delivery of a series of lectures on bee-keeping, preferably by Mr. Geo. Wells, of Aylesford.

Local correspondents to be regarded as members of the general committee.

The election of officers resulted as follows:—Committee, J. G. Angus, Wilson Ritson, C.C. T. R. Dodd, Geo. Gibson, F. E. Schofield, T. Gardner, and J. Atkinson. Hon. treasurer, Jos. W. Wakinshaw. Hon. secretary, J. N. Kidd, 1, Havelock-terrace, Gateshead-on-Tyne.

The following local correspondents were nominated and elected:—J. Cuthbertson, Bedlington; J. Brassell, Ushaw; J. Davison, Ryton; G. Robinson, Greatham; J. Ironside, West Hartlepool; J. Ladbrooke, Boldon; J. R. Appleby, Amble; W. Codling, Hartburn; W. Pearson, Chester-le-Street; T. Brown, Forest Hall; J. Anderson, Washington; J. M. Balmbra, Alnwick; J. Weightman, Whittingham; R. Greenwell, Warkworth; J. L. Dent, Burnhill; J. Bruce, Belford.

This concluded the business of the annual meeting. During the conversation which followed, Mr. Davison of Ryton reported having had an exceptionally good return last year at the heather (as compared with the very meagre results obtained by local bee-keepers), one hive having yielded 42 lb. of section honey, and his total amount of heather honey alone from four hives had realised £5 net. The bees had been fed up with syrup before the hives were removed to the heather, so that the brood-combs were full, and he attributed his success to this latter fact.—J. N. KIDD, Hon. Sec., *April* 26.

LECTURE ON BEES

AT RUTHERGLEN, N.B.

In connection with the scheme for technical education by the County Council, the Rev. R. M'Lelland, of Inchinnan, Renfrew, delivered a lecture on April 22 in Macdonald School on "Practical Bee-Keeping." There was a large attendance, and County Councillor J. T. Tullis, Burnside, occupied the chair. The lecturer, who was warmly received, gave a lucid description of swarming, driving, and culture of the bees. He also gave a few interesting hints to those who intended to pursue the science. The lecture was illustrated by limelight views, and at the conclusion a hearty vote of thanks was accorded to the rev. gentleman for his exposition. The branch of the Bee-keepers' Association at Rutherglen has been greatly augmented by the enthusiasm infused into the subject by Mr. Pearston, H.M. Inspector of Mines.—(*Communicated.*)

COMB BUILDING.

HOW BEES AND WASPS FORM THE CELLS.

Some years ago there was a controversy as to whether the cell-building of bees was worked from, or towards, a centre. Writing in the *Quiver*, for February, Surgeon-General Hutchinson says:—I have demonstrated that the former prevailed among wasps, and, therefore, ought to among bees. Chance took me one day into an empty outhouse at Peshawur,

and from its roof descended a solitary hexagonal and stalked paper cell, about which a yellow wasp was busily fussing; carefully was she dressing its sides with her mandibles, and more than once she went inside to see that all was right. Satisfied on this point, she came out, looked about her approvingly, and then crept into the cell backwards, laid an egg, came out again, licked her antennæ, and then flew away.

Looking in with a magnifier, I could see the pearly egg at the bottom of the cell. Satisfied thus far, I went away, and returning in two hours, found the wasp absent and the cell a quarter full of wasp-bread. Presently I heard a buzz, and in she flew with a pellicle of propolis, which she rammed into the cell, came out, cleaned her jaws, and flew away.

On returning next day the cell was full, and covered in with a hemispheric dome, and the two sides of a second cell were budding on one of the first, and thus the work went on, until a roughly circular comb, containing about fifty charged cells, was completed. Then the anxious mother disappeared, probably creeping into a crevice to die.—*Communicated*).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE JOTTINGS.

From Highways and Byepaths.

[2047.] *Old and New Combs.* — As the science of bee-keeping becomes more fully understood, so will the necessity for taking advantage of every item of detail become patent to the advancing bee-keeper, and one item which now receives less attention than it should in the hands of the average bee-keeper is that of the production of beeswax for the market. Viewing the subject from the standpoint of the well-being of our bees, old combs are clearly the very worst for a queen to breed in. From many samples I have had under notice, I find the cells have in them many used cocoons, dried up food and other residuum sealed up between each successive layer of cocoons. These considerably reduce the size of the cells, and although the bees clean them carefully out for use, they never remove the old cocoons. Happily the larvæ passes no dejecta, but they moult several times in this fast growing stage, and the cocoon is spun over these residues, which are found in a solid mass at the base of the cell. By actual measurement I have found that old combs, though varying but a trifle in diameter, have been a full quarter of an inch less than the original depth, and on removing the cocoons I found the residue at the bottom of the cells as hard as a stone. The most superficial thinker must at once see that to raise bees in such abnormally shallow cells cannot be in any way advantageous. And my attention was very forcibly called to this fact by observing how much more readily queens will lay in new combs, while, unless pressed for room, they give a wide berth to the old ones. This was especially noticeable in a comb cut down by myself, and afterwards renewed by the bees. The queen of the hive in question began ovipositing at once in the newly built portion, while she persistently refused to place a single egg in the old comb, which hung in the hive for months unnoticed by the bees, practically forming a barrier to the extension of the brood-nest in its direction. Viewing the question also from a point of profit, my experience shows that combs bred in for years do not contain sufficient wax to make them worth melting down. It is no figure of speech to say I have had many pounds of old combs from which not one ounce of decent wax could be extracted. Where has the wax gone? may be asked. These combs were originally all wax, but when old there is left in them hardly enough of the original material to hold the accumulation of cocoons together. A certain amount of wax has no doubt been absorbed by the cocoons—or skins—of successive generations of brood hatched in the cells, but no profit is possible by way of wax-extracting from such combs, and they become just so much waste in the hive. On the other hand, by a gradual renewal of all combs about once in every four years, healthier stocks and greater prosperity to the bee-keeper will follow, owing to larger profits secured by giving more attention to the production of beeswax than is now accorded this branch of apiculture. Let every bee-keeper consider this question as a means of making his bees pay, and adopt some system for the more frequent renewal of the combs in his hives. As mentioned in a previous jotting, more wax is produced from sugar-syrup than from the same weight of honey. New combs should therefore replace old ones in regular rotation, taking care that the renewal is sufficiently frequent to make the operation of wax extraction profitable. Beeswax will always sell readily, and the price is steadily advancing. The complaint of its scarcity among makers of

foundation has become chronic, yet in most apiaries this source of profit is wasted. I say wasted advisedly, and base my opinion on an experiment carried out a few years ago by myself in order to test whether bees would secrete wax when they had little use for it. I gave a stock nothing but built-out comb, and from the floor-board of that hive I collected during the season quite a big lot of wax in flakes which had been absolutely wasted. I offered a hint a few weeks back in this column as to the wisdom of giving the bees something to do at night, or when little or no honey was coming in. With this in mind, I have by slowly feeding a strong stock right up to the honey flow, had as many as a dozen complete combs built out from half sheets of foundation (nine sheets to the lb.), and could have had as many more by the end of the season had I so wished. This makes me positive that the suggestion is a thoroughly practical one, and that the idea may be turned to a profitable account, especially in bad seasons.

The production of wax as above would in no way interfere with the honey crop if properly carried out, and the question arises whether (in poor honey districts or in bad seasons) it would not pay to run the whole of our hives for wax production alone? Another fact worth noting is that at times when pollen is coming in freely, the amount of honey or sugar used in the production of wax is greatly reduced. Finally, I feel certain that this is a phase of bee-keeping to which attention might well be given with beneficial results.

Dealing with Foul-Broody Hives.—J. B. Adams, bee-inspector of Boulder County, U.S.A., reports in the *Am. B.J.* as follows:—"It has been necessary for me to disinfect hundreds of foul hives, and I have experimented with foul brood for a number of years. I will give the best way to manage that I have found. I have a galvanised iron tank, large enough to hold a dove-tailed hive, and used to boil them, but that injured the paint and caused some of the hives to warp and become open at the joints. I now fill the tank with water, build a good fire under it, then cut out all foul parts of combs, and put them into the fire, then put the frames, if there is no honey in the rest of the comb, into the water, and weight them below the melted wax, and boil them hard for at least ten minutes. After all the wax is melted, let it cool until the wax will come off in a cake. Take the frames out and they are perfectly safe to use again. While they are being boiled cut what pieces of comb that will pay out of the hive, and put them into the tank, then put a piece of paper or cloth (I use a long sack nearly as long as the hive) on the bottom, saturate it with coal-oil, and set it on fire. By moving it with a stick all the inside of the hive can be thoroughly heated, but it is not necessary to char the wood. When the wood commences to char, put the cover on, and close the entrance of the hive air-tight. This will smother the flame and force the heat into all joints and cracks. This disinfects the whole hive at once. Leave it closed until cool.

In my experiments I took a number of hives from an apiary where the last bees had died two years previously with foul brood. I also scraped some as clean as they could be with a hive-scraper, put bees into them, and the disease developed in all eleven of them with the first brood! This is not according to Mr. McEvoy—the danger is with the germ in the honey. When Dr. Howard (see Dr. Howard on "Foul Brood") asked Mr. McEvoy what he would do if honey were spilled in the diseased hives, he replied that he would clean it off. Now, suppose (which is quite liable to be the case) that the honey should run into a crack or joint of the hive, and a bee should afterwards put its tongue in and get some of the honey. You had better disinfect, and be sure, rather than run the risk."

The above report comes to hand just now most aptly, and its closing words should be well remembered in dealing with the disease in this country. We cannot afford to take half-measures, and whatever we do we must *be sure* of the efficacy of the treatment adopted. I and many others who have had this matter earnestly under our consideration for the last few months are positively certain that to eradicate the disease the destruction or thorough disinfection of diseased hives *must be a sine quâ non*. Mr. Adams has promised to give further particulars of his way of curing foul brood by an "easy" method, and so soon as he does so my readers shall be made acquainted therewith. So please keep a sharp eye on this column.—H. W. BRICE, *Thornton Heath, Surrey.*

QUEEN'S PIPING.

REPLY TO DR. MILLER.

[2048.] Dr. C. C. Miller, in B.B.J. of April 18 (2301, p. 155), referring to my article on the piping of queens (2199, p. 36, January 24), puts a few questions to me on that subject. I have had a great deal to do in the rearing and handling of queens during the greater part of the last quarter of a century, and am pleased to answer in the light of the experience so gained. Let me give, at the outset, what I consider to be a fundamental rule on the piping of queens, as follows:—"When a queen pipes she does so through her apprehension of some existing threatening cause." The case mentioned by me on p. 35, as well as each case given by Dr. Miller, comes under the rule just cited, in a manner either visible or assumed. In my case the piping of the senior young queen is caused by the presence of rival princesses. The empty cells (with the total absence of eggs and young brood in the hive) have only the power to

modify the piping, but their presence cannot by itself alone create piping when no inciting cause is present; nor can their absence prevent it when the contrary is the case. They must be looked at, therefore, when present, as "a modifying condition only," under which piping may occur, and in no case as "the cause" of the piping.

When, as stated by Dr. Miller, a virgin queen pipes at a time when there are no other virgin queens in the hive, it is always from some disturbing cause, such, for instance, as the presence of stranger bees which may be harassing her. In the case of a laying queen piping while lying caged on an office desk, her forced imprisonment is a sufficient cause of alarm to incite her to pipe.

In referring to my article, Dr. Miller has, inadvertently no doubt, slightly mis-quoted me, by overlooking a significant little word of great import. I did not say the "young queen," as elliptically quoted by him, but the "*senior* young queen," "when piping, first and foremost proclaims the presence of other virgin queens in the hive," which makes it evident that I was then referring only to a case in which the presence of the junior virgin queens was the distinctly-stated cause of the piping, without reference to piping from any other cause.—PETER BOIS, *Jersey, April* 29.

A LADY'S BEE-KEEPING.

[2049.] The interest in bee-keeping seems to be increasing in this neighbourhood, so that we arranged a bee lecture in connection with one of our fortnightly "pleasant evenings" on March 30. Our hon. sec., Mr. R. A. H. Grimshaw, lecturing, and Mr. W. Dixon, of Leeds, manipulating the lantern and showing a number of excellent slides, some of which were prepared by himself, both gentlemen kindly giving their services on the occasion. Mr. Grimshaw first described the anatomy of the bee, showed the different parts of the body, and described their uses, then explained the old and new methods of bee-keeping, and showing the superiority of the modern over the old, the slides showing different styles of hives, driving bees, manipulating hives, extracting honey, &c. At the close the lecturer showed a fully-fitted up modern hive and a quantity of appliances necessary to the successful bee-keeper, explaining their uses. The lecture was much appreciated by the audience, and many friends in the surrounding villages were disappointed at not being able to be present, as it was such a very wet night.

I am thankful to say my hives have got through the severe winter with only the loss of one queen, which is not bad, seeing I have seventeen stocks.

I fed up well in September before the frosts came. Put on warm quilts, cutting a hole over the brood-nest, and placed over it the stage of a float-feeder, and over that a piece of glass, packing up with cork dust-cushions. About the middle of December I put on the stage, first removing the glass, a box of soft candy to be ready when the severe weather came. I do not cut winter passages, preferring the stage of the feeder being put over the brood-nest, so that it enables the bees to creep over the frames without leaving the warmth of the cluster. It is also ready for the feeder in spring without having to remove the quilts. I do not believe in disturbing the bees and looking into the hives more often than is absolutely necessary. The bees were not interfered with again (except to replace the candy-boxes) till the day after Good Friday, when I examined to see if breeding had commenced, so as to be certain there was a queen. One side of a "Wells" hive we found to be without, so I took a queen and comb of brood from one of two small lots of driven bees (placed in a small "Wells" to winter), caged the queen for twenty-four hours, then released her, and to-day I find three frames full of brood, so that all is going on well. I scented the two lots of bees in the small "Wells," and next day removed the dummy-board and joined the two lots together, and intend to transfer to a single hive as soon as it is warm enough to do so.

I have not suffered from the storms as far as the bees are concerned, as I tied all hives down before winter. One hive was blown over, but no damage done, as it was well packed with cushions; but we had a large part of the roof blown off, and the vinery was a complete wreck, vines of twenty years broken to pieces, the wall of a new house our neighbour was building falling into it.

I hope to send you a few lines for next issue in reply to your correspondent, "Mr. Routh," and will try and inform him how I manage to make my "bees pay."—HELEN LAURENCE, *East Keswick, Leeds.*

CONCERNING "NOTES BY THE WAY," &c.

[2050.] Although only an occasional correspondent to the BEE JOURNAL, I am very glad to note, and am quite sure many other readers will be equally ready to express their satisfaction, that our interesting and valued old contributor, Mr. W. Woodley, does not intend—to quote himself—"to dry up" yet. Why, it would scarcely seem like the B.B.J. without an article of some sort from him. I have just been re-reading one in an old volume, and hope he may be spared to write in many more volumes yet, but I am very sorry to note in his letter, 2038, that he says, "the number who keep bees is a fast diminishing quantity in this part of the country." This is a great change from what he wrote in March, '93 (page 115) where he said: "The continued grant of the County Council is evidence that we are doing a good, useful work in the

county." If this is his present report, after several seasons' work of the bee-van, what is the cause, and what is the remedy? Since the B.B.K.A. have taken up the matter of "compulsory powers," our hitherto jovial friend seems to have a "bee in his bonnet" with a vengeance, and his tune is constantly, "Hush! the bogie-man!" Now, this must have a depressing and demoralising effect amongst the bee-keepers in his county. I therefore urge him to take grace of heart and look up to the sky—the sun still shines—and change his tune to "Cheer, boys, cheer!" and "There's a good time coming." His many friends, seeing him "himself again," will have confidence restored. Because his friend, the large farmer, could not persuade his workpeople to keep bees, it does not follow—as he says—that modern bee-keeping is not favoured by the agricultural labourer. Maybe in that particular case it is so, but let us hope that is an isolated one. The report of our Lincolnshire Association shows a still increasing number of bee-keepers, because we all keep stirring and working, each district secretary doing his best for the advancement of the industry, and, although foul brood undoubtedly does exist in the county, we shall not look upon the inspector—if one comes—as a travelling crematorium, such as friend W. so constantly seems to imagine him. So much *re* "Notes by the Way;" now for the "&c." That is a very pretty theory enunciated in letter No. 2043, *re* cause of foul brood—and theory I am afraid it is likely to remain. Given the pure cane-sugar and the pure water, stored in a clean hive, supposing a wanton bee "goes a robbing," as they ofttimes do, and literally puts his foot in foul brood, and flies home and puts the said foot again into the pure syrup, so carefully made, and spoils the lot by introducing the germs into it. No. Common-sense says make the syrups antiseptic by using some preservative, such as naphthol-beta or salicylic acid, and then you are not providing food for the bacilli, but good healthy food for the bees; and when your correspondent has had some experience of the practical treatment of the disease he will say so too, but, if prevention is better than cure, then always give medicated (if you will call it so) syrup to your bees and none other.—F. J. CRIBB, *Morton, Gainsboro', April* 29.

A WANDERING QUEEN BEE.

CURIOUS INCIDENT.

[2051.] I wish to bring to your notice the following incident:—On April 11, at five p.m., the sun shining brightly at the time, I found a queen-bee on the footway in a street of this town. I took her home, and the warmth revived her. I took her to my apiary, placed her in a cage, removed an old queen (a drone-breeder) from one of my hives, and placed the caged alien-queen in her stead. The next day I released the caged queen, but the bees would not take kindly to her. I re-caged and again placed her in the hive, and next evening I carefully released her.

I examined the hive on the 17th, and found she had laid at least 1,000 eggs. Seven days later I again examined, and found worker brood being raised from the eggs she had laid.

I examined some of my hives, but, being unwell, could not examine all. So far as I have gone, however, I find queens in all of them. The nearest stock of bees are about 300 yards from where I found the queen, and as far as I know there were no drones flying yet. I am under the impression she is an old queen, for she was as well developed on the 11th as on 24th. Two days after I had found her, I informed an old bee-keeper of my "find," and that I should write to the B.J. But seeing in B.J. of the 18th (p. 154), the question asked, "Do fertile queens ever leave the hive?" I thought I would see if the queen I found was fertilised, which I find to be the case.—R. FRENCH, *Leamington*.

[The above may, we think, be regarded as an incident unique in the annals of bee-keeping. —EDS.]

DO DUCKS EAT BEES?

[2052.] Will you, or some reader of the B.B.J., give your opinions on the above? My garden lies about fifty yards from a small running brook, and I have in the former sixteen frame-hives in good order. In early summer the bees visit the edge of the brook in hundreds after water. In the same brook ducks are swimming and feeding. I look with suspicion on these ducks, and wonder if they eat the bees? As this question might be of interest, perhaps some one may be able to say in your pages whether I am right or not.—JOHN CAMERON, *Dumbarton, N.B., April* 23.

[Perhaps some reader, with more experience of ducks and their bee-eating propensities than ourselves, will reply to the above.—EDS.]

CURIOUS POSITION FOR BROOD-REARING.

[2053.] About a month ago, finding a stock short of food, I placed an empty frame flat on top of frames, and on this laid a frame full of sealed honey. This morning on removing to feed with sugar this comb had a large patch of sealed brood. I put it in the body box, taking the precaution, of course, to place it close to other brood combs. Is it not rather singular for bees to use a comb in this position when they had plenty of room in the body-box?—ARTHUR SMYTH, *Parracombe, April* 24.

[We have seen brood reared in curious positions in comb which had fallen out of

frames, but have never before heard of a case where a queen chose of her own will to deposit eggs in cells lying mouth downward.—EDS.]

SECTIONS OF HONEY FROM RIVER PLATE.

[2054].—At the request of a gentleman resident at Buenos Ayres, we are sending you two sections of River Plate honey, which is, we believe, the first to arrive in this country. We should be very glad of any editorial comments you may make.

Bee-keeping is making very rapid strides in Argentina, according to the reports of our client, who is a large peach-grower there.

Our representative, who is now in Brazil, and will shortly proceed to Buenos Ayres, is, we think, a member of the Bee Association, and may report to you on the progress of bee-keeping in South America.—FROST & Co., *London, E.C., April* 26.

[Regarding the sections of River Plate comb honey referred to, we have pleasure in saying that, so far as appearances go, they are in good marketable form. The wood of the sections is beautifully white and clean, the comb well attached to the wood, and fully sealed over. The colour of the honey resembles that from heather. We charitably refrain from commenting upon the flavour and aroma of the sample, except to say that it would have hardly any marketable value at all here for table use. Whatever bee flora may predominate in the district where the honey was gathered, it is altogether unsuited for the British palate.—EDS.]

MISCELLANEOUS.

[2055.] *Early Secretion of Honey.* — Last Tuesday week, April 9, when overhauling a stock of bees about four miles from here, I was surprised to find four large patches of newly-stored honey—unsealed. This stock had had no syrup given to it. Another stock in this neighbourhood I found yesterday contained some new honey. The bees were working the gooseberry bushes on Easter Monday, and have been very busily employed upon them every day since.

Early Feeding-up for Winter.—Your correspondent, "Tomtit" (2037, page 157), says he is convinced that to winter well early feeding should be the order. He is not alone in this belief, as he will see if he refers to Mr. W. Woodley's letter (1709, p. 23, vol. xxii.) and to my short note (1727, p. 38) in the same volume. I always endeavour to get my feeding done by August 31, and have not lost a stock during the winter since adopting that plan. I never extract from the brood-nest, and any honey stored by the bees after July 31 I let them keep. Unfortunately there is no *Erica vulgaris* in this neighbourhood, or I should, of course, act differently.—PERCY LEIGH, *Hon. District Secretary, Worcestershire B.K.A., Stoke Prior.*

NOTES OF A NOVICE.

Like "Western County" (2285, p. 135), I am just recovering from the influenza, and have occupied some of my time in reading up the BEE JOURNALS, and, like him, I think some correspondents may write too much and too often, but it certainly is not the older writers. When searching the B.B.J. for practical advice, I generally find it in "Notes by the Way" or "Useful Hints."

My system of bee-keeping is to have a few handsome well-kept hives and try to secure good harvests of honey. I don't go in for manufacturing artificial queen-cells, or "trimming the bees' toenails and sharpening their stingers," as a friend recently remarked.

Bees round this district are decidedly backward, but I have a few stocks ready for the fine weather and fruit blossom; those reduced to eight frames for wintering are this year ahead of others wintered on ten, which is unusual in my experience. — W. BRYER, *Thame, Oxon, April* 29.

Queries and Replies.

[1260.] *Transferring from Skeps in Early Spring.*—On April 18, assisted by a bee-keeping friend, I transferred a stock of bees and combs from a skep to bar-frames. We had as much of brood, eggs, &c., as filled two frames. For the past two days dead brood (almost perfectly developed) has been cast out by the bees—a few every day. 1. Is that because the brood was "chilled?" The work was done on a warm afternoon, and it is a good stock of bees. 2. When do you advise its being supered? 3. I am selling a swarm of July last in skep for 10s. 6d. Is that too cheap?

REPLY.—1. The brood cast out will either have been damaged during the transferring or otherwise chilled by exposure. We cannot too strongly advise being chary of transferring unless weather is warm and settled. 2. All depends on the progress made by the bees in their new home. It's no use giving surplus room until the hive is well filled with bees and honey is coming in. 3. If the queen is young and bees strong in number, any one wanting such should consider it very cheap at this season.

[1261.] *Preparing for the Honey-flow.*—In your correspondence (2300, p. 154) is a paragraph on "Preparations for the Honey-flow," in which the bee-man is told to avoid having "his hives full of brood and young bees just when the flow is 'on,' and to have a full

working field force." Now, as regards myself, though I have your valuable "Guide Book," and study it often, I do not find any instructions how to manage so that the queen only lays when required. I am completely at the mercy of my bees, and feel I can only trust to luck or to themselves that they will regulate their own affairs to my advantage. 1. Can you assist me? I have been feeding them with syrup, but on April 6 gave them two cakes of candy, made with meal ("whole meal") flour, but on April 13 took it away, as they were bringing in pollen. Did I do right? I have since read that the meal stimulates the queen to lay, but (2) I had an idea that if pollen was coming in, it demoralised the bees to give them candy, or is this only meant for pea-flour, &c., when given as artificial pollen? Another thing I am wishful to know, viz., I have two empty combs in which honey was stored last year, one at front and one at back, but the bees are not using nm for brood. 3. Is this because they were not used for this purpose before? I bought by giving these, they would get them filled with brood, and the hive be so much stronger. I have also given them some shallow frames—fitted with comb foundation—at back of hive, with queen-excluder between, but the bees have not begun to draw it out, though I want them to do it, ready for the honey flow. 4. Why is this? Any information would be gratefully accepted. — E. OLDHAM, *Ashton-on-Mersey, April* 23.

REPLY.—1. The words quoted from page 40 refer entirely to the efforts the bee-keeper should make to get his stocks strong in honey-gathering bees when the flow of nectar begins, and to the fact that in order to take full advantage of the few weeks during which honey-gathering continues, the bees should be in full "working field-force" when the time comes, which means that they should be mainly bees hatched out a fortnight beforehand. Full instructions how to secure these advantages will be found in the "Guide Book" in the chapter on "Feeders and Feeding." 2. If natural pollen is abundant the artificial article is not only unnecessary, but harmful. But in any case flour candy is unsuited for feeding in April, while "whole meal" flour should never be used in candy-making at all. Pea-flour is the most suitable, but wheaten-flour answers. 3. Bees never use the outside combs for brood until the queen is pressed for room, and the central combs are fully occupied. 4. It is yet too early, and honey is too scarce for bees to take to the foundation.

[1262.] *Securing Fertilization of Queens.*—I have a hive in which a young queen has been hatched out this week. I overhauled my strongest stock to see if any drones were hatching out, but only found some grubs and eggs in drone-cells, which I have put in the hive where the young queen is. Will they be early enough to fertilise her, or will she be a drone breeder? Had I better unite them?—A. T. G.

REPLY.—The drone larvæ mentioned would be, we fear, too late for use, but seeing that we are now in May it is quite possible drones may be flying in your neighbourhood. In view of this we should allow matters to take their course.

[1263.] *Working for Extracted Honey.*—I intend working a hive for extracted honey. Is one rack of shallow frames sufficient, or will I have to work it as for sections; that is, by placing an empty under when the other is getting sealed? — BEEDOM, *Isle of Man, April* 20.

REPLY. — Everything depends upon the honey flow. Should honey come in well tier up, but should the reverse be the case, then one super of shallow-frames may be sufficient.

[1264.] How should I be likely to get most surplus honey from a strong stock of bees now working well in a skep? (1) By sectioning the skep in the usual way, or (2) by transferring bees and combs to a frame-hive and working for extracted honey?—E. B., *Macclesfield, April* 29.

REPLY.—By working sections on skep.

HEATHER HONEY IN APRIL!

"Mr. R. Johnson, writing from the Warren, Hollesley, Suffolk, April 22, says:—This morning I took five sections, completely finished, and four only partially so, from one of my hives. This is an extraordinary occurrence at this early period of the season, especially so after such a severe winter. I have about 400 acres of heath-land for my bees to roam over."—*East Anglian Daily Times.* This seems extraordinary, and one would like to know if the heather supplies nectar for bees in the spring. Mr. Johnson does not say whether his sections have been put on this season, or have remained on from last year. Can you explain it?—W. B.

[Whatever explanation may be forthcoming regarding the statement quoted, we have no hesitation in declaring it an absurdity to talk of heather honey in April.—EDS.]

ESSEX BEE-KEEPERS' ASSOCIATION.

The Essex Bee-keepers' Association are making a vigorous effort to get a good show of honey and hives at Southend in June, the management of this department of the Essex Agricultural Society's exhibition having been handed over to them, as it has been for a good many years past. The Bee-keepers' Association get no gate money on these occasions, so that all expenses incurred have to be met by special grants and donations. The regular work of the association lies more in the direction of encouraging bee-keeping as an industry

by sending a practical expert twice a year to visit the cottager in his own home, so endeavouring to teach him how to take care of his bees, and produce honey to the best advantage. Schedules will be forwarded on application to Mr. F. H. Meggy, hon. sec. Essex B.K.A., Chelmsford. Entries close May 27.—(*Communicated.*)

BEE-KEEPING IN GERMANY.

By C. J. Gravenhorst.

(*Concluded from page* 159.)

Apiculture in Germany did not again receive a general impulse until Dr. Dzierzon came forward in 1847 with his invention of the movable-comb hive, which appeared in the bee-journal founded in Eichstaedt, Bavaria, established not long before this by Andreas Schmidt. At first he had powerful opponents, among whom was Von Berlepsch. But when the latter, with bag and baggage, went over into Dzierzon's camp, and other prominent bee-keepers followed him, the new system gained ground constantly, especially after the invention of comb foundation and that of the honey extractor were added, and the itinerant convention of the German and Austro-Hungarian bee-keepers came into existence. The first one of these conventions was held in Arnstadt in 1850, and the thirty-ninth in September of this year in Vienna. These conventions are always accompanied by apiarian exhibitions. The apiarian societies which are scattered all over Germany have had the greatest influence upon the spread and elevation of apiculture. We have in the first place the separate societies, which are made up of members of a given locality. These societies meet monthly, half-yearly or yearly. A number of these societies form, in the several lands or provinces of a state, so-called central associations. Nearly all of the central associations, that of the kingdoms of Bavaria and Wurtemberg excepted, have banded themselves together to form a German Central Association, which thus numbers about 20,000 to 30,000 members. The German Central Association, by the side of the German-Austro-Hungarian Itinerant Association, but independently, holds every two years a great convention, with an exhibition. The last one was held in 1893, in Heidelberg. All of the separate central associations receive subventions from the State. The Mark Association, for example, to which I belong, and which is composed of eighty-three separate individual societies, having about 1,680 members, receives yearly about 300 dols. Other societies receive more, and others less.

Every member of an association receives at a reduced rate the official organ of the society. The Hanoverian *Centralblatt* organ of the Hanover Central Association, is most widely distributed among the members of societies, the editions being 13,000 numbers. It appears monthly, and costs to members of the society 24 cents. yearly. In addition to these official organs, numerous other bee-journals are published. Besides these journals —there are about sixteen of them—besides the multitude of other apiarian publications which are poured forth annually, and aside from the activity of the societies, the so called bee-keepers' schools work for the elevation of apiculture, as, for example, the bee-keepers' school under the protectorate of the Archduchess of Baden, which is located at Eberbach on the Neckar, where several courses are given every summer, many ladies also attending; and also the bee-keepers' school of Pastor Weygandt. Notwithstanding all these extraordinary exertions, the elevation of apiculture in Germany proceeds only slowly. Indeed, it has even gone backwards in the last twenty years, but is now on the increase, especially the method with movable combs. In the year 1883, the number of colonies of bees was 1,911,797, so that there were 3·5 hives per square kilometer, and for every 100 inhabitants 4·2 hives. Of these 19·3 per cent. were movable-come hives. According to the last census, in 1892, there were 2,034,479 colonies, that is, 3·8 hives per square kilometer, or for each 100 inhabitants 4·1 hives, 31·3 per cent. of which were movable-comb hives. Unfortunately, no exact figures concerning the honey-yield of these colonies are at my command, but it may be fairly estimated that in what are called good honey years, the honey harvest reaches 82,000,000 lb., and the wax harvest 1,000,000 lb.

It should be noted here that in Germany little comb honey is produced, there being for the greater part no market for it. From the hives with fixed combs the best honey that is obtained is what is called "run honey," and it approaches extracted honey very nearly in quality. The crushed combs are placed in a sieve or a trough, and the honey permitted to run off. What remains is gently heated, and strained. Extracted honey and run honey are sold on the average for 25 cents per lb., the strained honey 12 to 13 cents per lb. Comb honey and extracted honey are *the same in price.* The honey is gathered chiefly from fruit-bloom, rape, esparcette, acacia, or honey-locust, linden, corn-flower, buckwheat, and heather.

So far as the hives are concerned in which bees are kept in Germany, the bell-shaped straw hives are most widely used, the few log or box hives, or other hives with immovable combs are not worth consideration. The confusion in the construction of hives with movable combs is infinitely greater in Germany than in America. The great majority of these hives are built cupboard-like, with several stories one above another, which opens at the sides where the gables are placed, or from the back end. The

frames in these hives, quite in contrast to those in American hives, are placed with the longer dimension perpendicular. The full-sized German standard frame does not differ greatly as regards its contents from the Langstroth frame. American hives have been but little introduced, or not at all, here. Among the German hives most preferred are the Dzierzon twin hive, the Berlepsch hive, the four-story upright hives, the Dathe hive, the Albert leaf hive, and the hive which I use, the Bogenstueiper.

Whether, notwithstanding the great exertions which are constantly being made for the elevation and spread of apiculture in Germany, it will ever be brought up to the point it reached in the thirteenth, fourteenth, and fifteenth centuries of our era, is still a great question. The many flowers growing wild in those times have disappeared because of improved methods in the management of meadows, forests, and fields. But in return many other honey-producing plants have become naturalized with us, so that the lack has been made good again. We Germans entertain the hope that constant progress will mark the course of apiculture, and this so much the more since we can profit by the valuable investigations of bee-keepers in other lands, and not the least among these are to be counted those of our brother bee-keepers in America, who so nobly stand far in the lead in progressive apiculture. God grant it. With this sincere wish, and with hearty greetings from Germany, I present to the honourable body of North American bee-keepers, my profound respects as one of your honorary members.—C. J. H. GRAVENHORST.

Bee Shows to Come.

June 12, 13.—Essex Agricultural Society's Show at Southend. Entries close May 27. Schedules (ready shortly) from F. H. Meggy, Hon. Sec. Essex B.K.A., Chelmsford.

June 24 to 28.—Royal Agricultural Society's Show at Darlington. Entries close May 1. Schedules from J. Huckle, King's Langley, Herts.

TRADE CATALOGUES RECEIVED.

H. Hutchings, St. Mary Cray, Kent.—22 pp. A novelty is introduced into above list in shape of a "Guinea Outfit" for bee-keepers, including a complete hive and all requirements for a start off in the craft—the lot for 21s.

T. A. Flood, Donnington-road, Reading.—A short but concise list of bee-goods, and, in addition, containing specially written articles on "Modern Bee-Keeping" and "Handling Bees," together with calendar of bee-work for every month in the year.

Wm. Raitt's Trustees, Blairgowrie, N.B.—This firm, who continue to make a specialty of high-class comb-foundation of pure beeswax only, are issuing for 1895 a condensed list from their full catalogue of last year, with revised prices, and send the latter free to applicants.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

MAJOR-GEN. ROBIEN (Bishopstoke).—*Chilled Brood.*—1. We can readily believe that the foundation is of genuine bees-wax, but bleaching to make it white nearly always gives the foundation a sort of "tallowy" smell, which bees decidedly object to. Pale yellow super foundation of unbleached wax is much to be preferred. 2. If brood is only "chilled" (not foul), it may be left to the bees to remove unless there is a deal of it in the comb, in which case it should be removed and destroyed.

E. D. B. (Yorks).—1. Combs received contain no foul brood, but only dead adult bees, the mouldy and decaying bodies of which causes a stench sufficient to promptly point out the fire as the best place for them. The frames, however, if well scraped, will be quite fit for using again, as will the clean combs in the hive. 2. The hive also will need nothing beyond a good scrub out with hot water with a handful of washing soda in it.

ENQUIRER (Broomfield).—*Dates of Honey-flow—Bees' Stings for Rheumatism.*—1. White clover generally begins to bloom in the south the first week in June. In the Midlands about the middle of the same month, and as we get further north the date ranges from June 15 to the first week of July. The honey-flow from it usually lasts about twenty days. Limes bloom about the time the clover has ceased to flower; but the honey-flow from this source seldom continues more than seven or eight days. 2. Some very remarkable instances of the good effects of bee-stings in cases of rheumatism have been recorded both in this country and on the Continent. There are also sound reasons for supposing that what may be

termed the poison of the bees' sting (formic acid) is beneficial in the direction referred to.

A. E. FURNIVAL (Notts).—Comb received is probably from a hive the bees of which perished from foul brood, but so long ago that all traces of the diseased larvæ have been dried up and disappeared, only to be traced may be by much trouble and the use of the microscope. No need to destroy the hives if thoroughly disinfected.

S. H. MILLS.—Comb sent is affected with foul brood. Our correspondent is evidently entirely unconscious of the infectious nature of the disease, when sending an envelope for "seeds" in same package as comb containing rotting foul brood.

H. W. H. (Herts).—*Cutting Combs from Skeps.*—We should not advise the cutting away of part of the combs in skeps as proposed. It would only have the effect of providing quite a superfluous quantity of drone comb in lieu of that removed, and could not tend to the ultimate prosperity of the bees in the skeps. The outside combs might be removed, but no others.

S. MAKIN (Sheffield).—No foul brood in comb sent, but a few cells contain chilled brood. The appearances indicate scarcity of food as the cause of the chilled brood.

I. P. A. (Penryn).—*Disinfecting Storeroom.*—If all quilts, coverings, and portable things used about the hive are boiled, no harm will follow, and, with the free use of naphthaline in the store-room, we should not hesitate to use it again for storing appliances in.

E. B. (Dublin).—The address of Mr. F. Benton is U.S. Department of Agriculture, Washington D. C., U.S.A.

J. H. N. (Watford).—"*Braula Cæca*" *in Hive.*—Use tobacco paper in the smoker, and give a few puffs among the bees infested by the parasites. As there are but a few of the bees troubled with them, one smoking should suffice to cause them to drop on the floor-board, from whence they may be brushed off in an hour or so.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

BEES in Double-walled Frame-Hive. Strong lot, 25s. Miss LOCKWOOD, Ripon. G 67

SWARMS WANTED, with last year's Queens. Apply to DAVID PATTERSON, Struan, Calvine. G 75

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

DEPUTATION TO THE PRESIDENT OF THE BOARD OF AGRICULTURE.

Just before going to press we are glad to be able to report very briefly the fact of the deputation representing the British Bee-Keepers' Association having been received by the President of the Board of Agriculture at the offices of the Board, St. James's-square, W.

The deputation was introduced by the Right Hon. Sir John Gorst, Q.C., M.P., and the following members of Parliament, with other gentlemen, accepted the invitation of the Chairman of the B.B.K.A. to attend and support the Right Hon. gentleman and the views of the deputation :—Sir Mark J. Stewart, Bart., M.P., Sir Herbert E. Maxwell, Bart., M.P., Right Hon. D. Plunket, M.P., Sir Geo. Newnes, M.P., Hon. Mark Napier, M.P., Sir George Kekewich, C.B., Sec. Education Department, W. Burdett-Coutts, M.P., Col. Lockwood, M.P., Major Rasch, M.P., Col. Cotton-Jodrell, M.P., J. Round, M.P., (representing National Agricultural Union), C. W. Radcliffe Cooke, M.P., Thos. Snape, M.P. (representing County Councils), T. N. Archibald Grove, M.P., T. F. Halsey, M.P., Jas. Rankin, M.P., A. Baldwin, M.P., R. W. Perks, M.P., and H. D. Green, Q.C., M.P., J. H. Yoxall (representing National Union of Teachers), W. Lees McClure, L.C.C., and J. Anderson Graham.

The British Bee-Keepers' Association were represented by T. W. Cowan (chairman), Henry Jonas (vice-chairman), and the following members of the council :—Rev. G. W. Bancks, Major Fair, W. Broughton-Carr, Jesse Garratt, W. H. Harris, and E. D. Till, with J. M. Hooker and F. H. Meggy (representing the counties of Kent and Essex), and John Huckle, secretary.

The influential character of the deputation will be gathered from the above list, and, while reserving till next week a full report of the proceedings, it may be said that the deputation were very cordially received by the President of the Board, who spoke at considerable length in reply to the speeches of Sir John Gorst and others advocating the claims of the bee industry.

The right hon. gentleman's remarks were couched in an entirely friendly and sympathetic spirit, and he concluded by suggesting that a small committee of the B.B.K.A. council should be appointed to confer with the officials of the Board as to several points which required clearing up before action could be taken. This was agreed to, and after thanking Mr. Gardner for his kindly reception the deputation withdrew.

AN APPEAL

ON BEHALF OF THE WIDOW AND FAMILY OF THE LATE THOMAS BADCOCK.

The following sums have been received or promised :—

British Bee Journal and *Record*	£1	1	0
T. W. Cowan	1	0	0
E. D. Till	0	10	0
Miss E. A. Till	0	10	0
Rev. E. Bartrum, D.D.	0	10	0
A. W. Harrison	0	5	0
H. W. Brice	0	5	0
S. P. J.	0	5	0
Elvey Smith	0	5	0
A. G. P.	0	5	0
G. Wells	0	3	0
W. W. Cullwick	0	2	6
Miss Tarr	0	2	6
H. M.	0	1	0

It need hardly be said how pleased we shall be to take charge of and acknowledge receipt of any further sums—large or small—which may be sent to this office in aid of the very laudable object to which the fund will be applied.

BEE AND HONEY SHOWS OF 1895.

THE "ESSEX," "ROYAL," AND "ROYAL LANCASHIRE" AGRICULTURAL SOCIETY'S ANNUAL SHOWS.

The first important bee and honey shows of the season of 1895, are, as announced in our pages, those of the several agricultural societies named above. That of the "Essex," at Southend, on June 12 and 13, leads the way, and schedules can be had as notified on p. 189. Then follows what, in some respects, is regarded as *the* show of the year, viz., the annual exhibition of the B.B.K.A. in connection with the "Royal" at Darlington, extending from Monday, the 24th, to Friday, June 28. The present favourable weather, and the abundant bee-forage now available, augurs well for a good display of the present season's produce at the "Royal." There are six weeks of honey gathering before the date of show, and we know what can be accomplished in that time with sunshine and strong stocks of bees.

Finally, we have the "Royal Lancashire" Agricultural Society's Show at Preston a month later, viz., July 25, 26, and 27, another big show. Here the classes in the bee section are for honey only, no hives or appliances being included, save one for "most interesting and instructive exhibit of any kind connected with bee-culture."

The honey shown must be gathered in 1895, and six of the seven classes are open to all. The single class "limited to persons residing within fifteen miles of the Preston Town Hall" is a tempting one, viz., 12 1-lb. jars extracted honey, with prizes of £3, £2, and £1 for the

best three samples. Of course, it is quite natural for the donor of such liberal prizes to make the class a local one, but he would have secured a much more extensive display and stronger competition had it been open. As it is, we can only say "lucky locals," and hope they will do credit to themselves by numerous entries.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[2056.] The weather has been more propitious for both agriculture and apiculture, the breadth of forage having extended in all directions during the past week. Sycamores and chestnuts are bursting into bloom, and fields of sainfoin, which a few days ago were covered with a mantle of dark green, are now studded with the bright yellow of the dandelions, and in some old layings of grass the fields are like a cloth of gold. Then the woodlands are radiant with blossom, the "wint flower" (*anemone*), the primrose, and violet and the wild cherry, both stem and tree, are covered with thickly-clustering blossoms. Other fields are yellow with turnip bloom, while the hop clover (*trefoil*) is beginning to show a few early flowers. So much for present bee-forage, not forgetting the fruit bushes, gooseberry and currant.

Thanks, Mr. Cribb, for comment on "notes" 2050. One does not always see things through the same spectacles. My comment on continued grant from C. C. was true so far as it related to our Berks association's endeavours to spread a knowledge of modern bee-keeping, and I trust that the good seed sown will bear fruit in the future. What I wrote the other week is also true of the diminishing number of bee-keepers among the labouring classes in this district. I have personal knowledge of many little apiaries being sold out or taken up in my immediate neighbourhood; in fact, during the past twenty years the number who keep bees have fallen from tens to units, and in hamlets to cyphers. I find my little successes in bee-culture have in no way raised a spirit of emulation in the labouring or mechanic class, though I could record a few cases of farmers' sons and clergymen who have adopted the modern hives, yet, so soon as they had to rely on their own management, they tired of the pursuit, and gave it up or sold out as unprofitable.

Any "note" of mine on the foul-brood question has been written in the interest of bee-keepers, my endeavours having been to elicit facts. I have been searching and craving for "more light" on the subject, and am still following up the quest. A travelling "crematorium," combined with compensation, would, I think, be far preferable for the eradication of the pest than a "travelling sanatorium." In some "notes" I supposed Mr. Routh was referring to the *American Bee Journal* of March 14, in which is recorded a complaint as to the action of the foul-brood inspector in burning up a diseased apiary. The *American Bee Journa l*of April 11 contains a full and complete reply from the inspector as to his action in the matter.

In turning our attention to wax production, as suggested by Mr. Brice (2047, p. 172), we must take a lesson from Mr. Wells, or dispense with the extractor and return to strained or run honey, breaking up the combs in the old method. The importance of the question will depend on the profitableness of wax production in comparison with that of honey, and if 10 lb. or 12 lb. of honey is consumed by the bees into producing 1 lb. of wax, the said pound of wax will cost the bee-keeper some 5s. or 6s., while the best price he will obtain will not exceed 2s. for pale primrose colour, and 1s. 6d. for ordinary brown wax. Referring to wax-scales dropped and wasted on the floor-board, the weight will be very small—in fact, I have noticed the same occur in straw skeps when no foundation has been given, therefore I cannot attach much importance to so small a quantity.

I hoped Mr. Routh would have given us some of the larger items of expenses in his management. For myself (or ourselves), *i.e.*, the wife and I, we have always endeavoured to keep down expenses. Why, I had over twenty colonies of bees before I possessed a "smoker"! I just managed with a roll of smouldering rag. I then acquired a smoker, which, though home-made, answered very well. My first, second, third, and fourth series of hives were home-made ones—not in leisure hours, though. After the ordinary day's work was over, I turned into the kitchen and worked 'till the sma' hours, oftentimes up again and "on the job" at 4 a.m. During the past few years—during which time my apiary has mustered considerably over a hundred hives—we only have the help of a watcher at the out apiary for swarms. For ourselves, we put in some sixteen hours' work among the bees per day; and I suppose this is how *we* make it pay. The old adage, "That he who by the plough would thrive, himself must either hold or drive," applies with special force to bee-keeping. Depend on it, my friends, if you intend to derive any material benefit from the pursuit, you must put plenty of hard work and some brains into it.—W. Woodley, *Beedon, Newbury.*

THE LATE THOMAS BADCOCK.

[2057.] Referring to your notice of Mr. Thos. Badcock's decease, I send you postal

order, 5s., kindly sent me by one of his old friends. The following extracts, from a letter written by Mr. Badcock last January, from Betsham, possess an interest for your readers generally, and particularly so for those who knew him.

"I am suffering from heart disease. I at first thought it was only indigestion. In June I had to give up work, and spent six weeks in bed. Then I got about again, and was *apparently* ready for the usual 'tallying' in the hop garden during the holidays; but fainting-fits returned, and though I tried hard not to give up, I was able to get through only four days' school work,—getting to and from school tired me very much. I therefore resigned my post, and declined five offers of science classes. I have recently returned from a six weeks' sojourn in Guy's Hospital. At present, *rest* is the thing I most need—not medicine. I remain in bed till midday. *I am, in fact, a drone!*"

We all know Thos. Badcock was never a "drone," though he writes it in pleasantry of himself. He worked bravely as long as ever he could, and he has left a manuscript which he finished only a week or two before his death. His idea was to present on a large card—or cards—for school walls the principal facts of bee-keeping, with apt illustrations, giving, as it were, "a bird's-eye" view of the subject to suit the comprehension of children. It is clear, concise, and simple, and finished with that painstaking care which so characterised him in all work he undertook.

I hope some one will purchase this manuscript and publish it for the benefit of the widow and children, and that it may become a sort of monument to our late friend on the walls of many a rural school. If so, it will certainly promote the pursuit of bee-keeping.—A. M. I., *Kent, May* 3.

AMONG THE BEES.

DUCKS AND BEES, LIKEWISE FOXES.

[2058.] I note you require some information *re* ducks and bees. Well, I can just fill up that bill right away. Ducks and bees agree just about in the same proportion as the generality of foxes and ducks do. The results of my experiences, which I now lay before you, I think are sufficiently conclusive with regard to both statements I have thus made.

I was the proud possessor of twenty-eight white sleek-feathered Aylesburys. Often during their growth from ducklinghood until near their maturity had I pictured to myself a rich brown ornament to the table with the usual concomitants, green peas; but, alas! this was not to be, as the sequel shows. Upon one fine morning the boy who looks after the swarms imparted to me the intelligence that these sleek-feathered demons regaled themselves, after their usual breakfast of barley-meal, with an after-dish of bees! I watched, and the result was I saw a row of ducks (fancy, Messrs. Editors, eight-and-twenty of 'em) stationed at the entrances of eight-and-twenty hives, busily engaged gobbling up the bees as fast as they alighted at their homes. Now, I just passed their death sentence at once (it had been done before), but owing to other matters taking my attention away just then, and the fact that my family gathering at meal times is not sufficiently extensive (four all told) to consume eight-and-twenty ducks at one sitting, they were allowed a short (very short) respite. About three days after the same youth informed me that the ducks were missing. From certain "spoor" I found, and the knowledge that there were a Mr. and Mrs. Reynard, together with a family of six, in a copse adjacent to my apiary, I placed myself in communication with my neighbour, the head keeper, with the result that a short time after one of the said keeper's boys, breeches, gaiters, and all, brought to my house a neat brown paper parcel. From the malicious grin that overspread that boy's face I guessed the result. The parcel opened displayed fifty-one ducks' legs! I haven't kept ducks since. —W. B. WEBSTER, *Binfield, Berks.*

DO DUCKS EAT BEES?

[2059.] "Eat" is hardly the word for what I caught my drake and ducks doing one fine day back in the winter, when all their usual between meal tit-bits were hidden by snow. Outside my one hive stood the four of them, shovelling the bees off the flight board at a desperate rate. Very reluctantly they moved away when I dived down the bank to shift them, catching bees on the wing as they went, and the impudent young drake stood on the top of the bank and caught three or four while I adjusted a screen to keep them a respectable distance away. I picked up master drake, and talked seriously to him (he is very sociable and intelligent), and, to his credit it must be said, that neither he nor his wives have been seen near the hive since; and I do not think he would look at so insignificant a morsel as a tiny bee now that he can obtain (and swallow too) young frogs half as big as the eggs his wives lay.—F. F., *Selhurst, May* 2.

[2060.] In reply to John Cameron (p. 175), I should recommend that some wire net be placed round the edge of the brook where the bees go for water. Ducks are very destructive to bees, as I know from practical experience. Some years ago when I used to pay business visits to Neighbour & Sons' Bee Farm at Hemel Hempstead, I have seen them eat them wholesale.—J. S. GREENHILL, *Wimbledon, May* 3.

[2061.] Referring to the above query on p. 175, I think not. Last summer I had twenty Aylesbury ducks, which were allowed

to run, with fowls, to within eight feet of my hives (five); and in order to test whether they would eat the bees, I threw several dead ones to them whilst on their pond, which, however, they declined to touch.—ENFIELD, *May* 4, 1895.

[2062.] I see in your issue of May 2 (2052, page 175) a correspondent inquires "Do ducks eat bees?" I may say I have kept ducks and bees in the same enclosure, and on several occasions have seen the ducks standing in front of the hives snapping at any bee within reach. —E. A. DOUGLAS, *London, S.E.*

[As an outcome of the above several communications, we think it may be safely averred that ducks *do* eat bees.—EDS.]

A LADY'S BEE-KEEPING.

DO BEES PAY?

[2063.] I write to keep the promise made on page 171 last week, but have been hindered all day by callers, so can only send a few lines. I had proposed giving my income and expenditure since I commenced bee-keeping in 1891, but reference to my letter of April 5, 1894, will show what I had done up to then.

Last year I had only 430 lb. of honey and one swarm from thirteen stocks.

For the honey I got ...	£22	10	6
6 lb. of wax at 1s. 9d. ...	0	10	6
Prize money	0	10	0
	23	11	0
My expenditure... ...	10	8	0
Profit balance	£13	2	0

I do not work my hives for sections, as they do not sell here, and I find I can get double the quantity of run honey in the same time, while the combs do again year after year, which is a great saving in time and honey to the bees. I get a good price for my honey—12s. a dozen for screw-cap jars in large quantities, and 14s. a dozen for small—but I am very particular about the quality. Each comb is looked carefully through before extracting, the clear, light-coloured being put through one machine, and the dark through another. I also tie a piece of fine flannel under the "drainer" of the ripener; it makes the honey so much brighter, and does not clog so soon as the muslin.

My expenses were very heavy last year, but then it includes several new hives fitted with comb-foundation, lifts, bar-frames, &c., which will all come in for this year. —HELEN LAURENCE, *East Keswick, Leeds.*

OLD AND NEW COMBS.

[2064.] Mr. Brice's communication herein (2047, p. 172) is most timely. I have been struck by the readiness with which queens take to a sheet of new foundation placed in the brood nest. Mr. Brice explains the queens' feelings upon the subject in an admirable way. I moved my hives with the kind help of Mr. Cribb, from Lincolnshire, last autumn. They have all come safely through the winter, but two stocks have been weakened by flights of bees on to the snow—a new experience to me. I noticed that there were signs of a queen having been lost in one hive on April 20. I fear she must have been killed when I cleaned the floor-board a day or two previously. The bees were evidently mourning her loss on the 20th. There is now a sealed queen-cell in the hive. Will there be drones in time for her mating, or what course am I adopt? Could I unite another hive with queen to this one?—C. E. COCKIN, *Etton, Hull.*

[Seeing that May is now in, drones should, in the ordinary course, be flying in time for the purpose referred to.—EDS.]

FOUL BROOD. HOW IT BLOCKS TRADE.

[2065.] We are free from foul brood in this district, and sincerely desire to keep it at a respectable distance; but a difficulty presents itself—I wish to purchase some stocks of bees for customers, and, knowing that the disease exists both in Suffolk and Norfolk, it is necessary to exercise caution. Hoping the Editors of the B.B.J. could help me, I wrote asking if they could name the locality, or localities, where it prevailed in the above counties. The reply received states that foul brood does exist in the two counties named, but as all letters referring thereto are considered "private," unless otherwise stated, they cannot give the information required. The Editors are to be commended for their action; but what about the bee-keepers who thus marked their letters "private"? Are they not inflicting an injury upon others residing in the same counties, by stopping the sale of bees—(1) from the possibility of purchasing bees where the disease exists; (2) by deterring persons from purchasing bees, fearing they might come from an infected district?

An honest man should, for the sake of his fellow bee-keepers, let it be known that the disease exists in his apiary.—L. WREN, *Lowestoft.*

SELF-HIVERS.

DO THEY ANSWER THEIR PURPOSE?

[2066.] As the interest in self-hivers is very great, and as some of your correspondents have somewhat doubted the strict accuracy—or freedom from colouring—of the reports I gave in B.J. last year, June 7, p. 226, and July 19, p. 282), I trust you will give me space for the insertion of a letter received the other day from an extensive fruit grower in Cornwall

(an entire stranger to me), to whom I supplied in June, 1894, the only self-hiver last year for which I took payment. I never heard how the contrivance worked with the purchaser, and, remembering that it was only a rough, home-made one, I last week wrote offering to send him, free of cost, one of the new and improved articles I am now having made, on his returning the old one. Well, the letter I ask you to insert is his reply, and reads as follows :—

"April 25, 1895.

"DEAR SIR,—Your letter, with pamphlet, to hand. I am glad you have made an improvement in 'Swarm-catcher.' The one you sent last year, however, gave me every satisfaction. I placed it on a hive, and it remained on about five weeks. At last one hot day I chanced to be away from home, and on my return in the evening I found safely hived in the 'receiving-box' an enormous swarm weighing 9 lb. ! I note in your letter just received you want me to return the old 'hiver,' and you will send one of your new ones in its stead, but I like the old one so much that I cannot part with it.

"I shall, however, be very pleased to purchase one of the improved ones, on being informed of the price.—Yours, &c., R. D. Thomas, Polgoon, Penzance, April 25."

Of the above testimonial I can at least say it was "unsolicited."—G. R. HOLE, *Patcham, Sussex, May.*

UNITING BEES IN "WELLS" HIVES.

[2067.] It is very gratifying to me to see that we have at least one lady bee-keeper (2049, p. 174) who is trying what can be done with two queens in one hive, separated with the perforated division. For the information of your lady correspondent, and of any other reader requiring guidance in this direction, I may point out that there was no need whatever to scent the bees in small "Wells" hives before she withdrew the perforated dummy. The bees would have united without any fighting, and worked just as harmoniously together as any other single colony.—G. WELLS, *Aylesford, Kent, May* 4.

WIRING FOUNDATION.

[2068.] I have hit upon a little contrivance for embedding the wire in brood foundation, which can be made by any one at a cost of about 2d., and answers the purpose equally well as the various "embedders" costing 1s. to 2s.

I use an ordinary bradawl of rather large size, and file away a V-shaped groove in the point, which, being heated and run along the wire, acts in the manner desired.—GEO. O. NICHOLSON, *Market Harborough, May* 1.

BEE NOTES FROM SUSSEX.

[2069.] Since I last wrote (2295, p. 146) I wish I could report better progress in our parts from a bee point of view. I have come to the conclusion that the weather—like a good many other things—must seem curiously different to different people. Years ago battling against a good gale was an immense delight to me. Since I have become a cyclist I look upon the wind as my mortal enemy. Since I have also become a bee-keeper I am constantly finding defects in the weather which I never noticed before. A day which satisfies many people is often anything but perfect to me, because, by reason of fog, or rain, or wind or temperature, it will not suit the bees. Certainly, in the fifteen years I have spent on this South Coast I have never known so many sea-mists, gales, and cold, chilly spring days. We have certainly had a few warm days lately, but they are far between, and even to-day it has been blowing hard from the north-east, and last night was frosty. We are six weeks behind our normal year.

On April 11, the only possible day for some time previously and ten days later, I ventured to shift a single hive and a "Wells" hive into fresh quarters, clean floor-boards, &c., repairs being imperative. Whether in consequence of this or not I cannot say, but I found next day most of the bees on one side of the "Wells" hive and the other division apparently queenless—possibly another case of balling ! It was out of the question to re-open the hive in the inclement weather which prevailed ; so, after watching the conduct of bees on alighting-board for several days, I tried, by the great kindness of one of your well-known contributors, to re queen them. My efforts were, however, in vain. So I can only conclude I missed a queen cell (I cut one out) when searching combs before introducing her. I only saved her—a fine Ligurian and English hybrid—by halving a strong stock, and giving her to the queenless half ; and even then had mishaps, and narrowly escaped failure. However, I believe I now have my original six stocks once more in good condition : three very strong, two somewhat weak, and one very weak for the time being.

What is the apiarian outlook ? It is notoriously unsafe to prophesy ; but I think I will venture. With us the daffodils are over, tulips and narcissus are coming on. The primrose is at its height. The fruit-blossoms have been extraordinarily kept back, and are positively only now opening. Young gooseberries and currants are plentiful. To-day I noticed the first white in the hedgerows. Opposite us a nightingale sings day and night, answering others. The bees are bringing in much yellow (willow ?), orange (dandelion ?), and white (fruit-blossoms ?) pollen. They take enormous quantities of water, and they partake freely of thin syrup ; and, in consequence, they are building brace-combs again

so fast that I have given two stocks some shallow frames to work out just to amuse them. Everywhere the green tints are appearing in field and hedges, and all we now want—especially for our many convalescents from the influenza—is some settled warm weather. In these parts this usually comes in with June, when fires can be finally left off. If this be the case this year, then the bees will be just ready for it. All the various blossoms, flowers, and crops, so greatly retarded, will come on rapidly together, and there will be a big "boom" for those bee-keepers who have known how to wait, and possess their souls in patience.

Personally, I am very hopeful. I have reason to be. Just the other side of the road there is a big field of peas; a little lower down, a bigger of clover. Other pastures fair are within a mile radius. I have just seen an enormous field at the back of my house sown with clover over oats, promising a rare good time next year, whatever this one may turn out to be. But I shall be very much astonished if this present year does not prove a record beater. Swarms may be few, but I fancy the honey takes will be large. At any rate, such is the hearty and sanguine wish, for himself and all others of the truly gentle craft, of W. R. N., *Sussex, May* 3, 1895.

TECHNICAL INSTRUCTION IN WEST SUSSEX.

[2070.] I beg to inform you that I have been appointed lecturer on bee-keeping for the West Sussex County Council. Any one who wishes to have lectures in their parish should communicate with Mr. Edwin Young, County Hall, Lewes, the organising secretary for technical instruction, without delay, as it is important the lectures should commence at once.

Perhaps if bee-keepers in East Sussex would write to Mr. Young expressing the desire to have lectures in that division of the county, the East Sussex County Council might be induced to do the same; and then there would be a good opportunity for starting a bee association for the whole county.—C. Brereton, *Pulborough, May* 6.

Queries and Replies.

[1265.] *Dealing with Weak Stocks.*—I have four stocks of bees, two being fairly strong on seven or eight frames, the other two very weak, one having three seams of bees with two and a half frames of brood, the other three seams with two frames of brood. 1. Would you advise me to unite these two weak ones, making one fairly good stock, or let them build up by themselves? If kept separate would they be likely to yield any surplus honey, as the season here ends about the end of July? Last year I had about 80 lb. of honey gathered in July; it granulated shortly after extracting, but had a bitter taste. 2. What was the reason of this? 3. Is lime honey generally bitter, as I think the greater part was gathered from the lime-trees? 4. Do horse-chestnut-trees yield much honey, and is it of good flavour?—E. A. Douglas, *London, S.E.*

Reply.—1. The fact of there being so large a quantity of brood for the proportion of bees in each hive argues so well for the good quality of the queens, that we should be loth to unite, seeing that there are still—as stated—nearly three months before your honey harvest closes. 2. We could not account for the flavour without a sample of the honey to guide us. 3. Lime honey is known by its having a slight but distinct minty flavour. 4. In some seasons the horse-chestnut yields honey freely, but the flavour of it is not good.

[1266.] *Packing Swarms for Transit.*—1. What is the best thing in which to pack swarms for a long railway journey? 2. Are the ordinary skeps, with cheese cloth tied over, the popular method, and safe?—Enquirer, *Gloucester, May* 4.

Reply.—1. A properly constructed swarm-box, as made by any appliance dealer, is the best thing; the next best is a sensibly-made but simple substitute for the above. A fairly strong box (such as may be had for 3d. at any grocer's) of a capacity to hold, say, about a peck and a half of peas. In this box cut holes 6 × 3 in. on two sides and bottom. Cover these holes with perforated zinc on the insides, and nail a couple of strips of wood across bottom to keep it raised an inch from ground. Secure lid firmly on, and, with a stout cord to carry by, a swarm will travel in it any distance. 2. An "old hand" at packing swarms for transit can manage it quite well in skeps, but beginners often fail in sending them safely in this way. The main point is to provide means of keeping the skep *mouth upward*, and covering with open material.

[1267.] *Beginning Bee-keeping at the Wrong End.*—I started bee-keeping last year with two swarms, which were put into frame-hives of my own making. I now learn, however, that the friend who advised me how to make them was not well up in that sort of hive, and in consequence the bees in one hive have built their combs across the frames instead of within them. I cannot, therefore, remove the frames, and further, I left too much space between the frames and hive sides, so the bees have filled it in with comb. In the second hive the combs are built inside the frames all right, but the extra space is here, too, filled in with comb, and the frames are immovable unless I break away the comb at sides. 1. What can you advise me to do in order to remedy things? 2. My frames are not "standard" size, being

14½ in. by 8½ in., outside measure. As I think of making some more hives, would you advise adopting the proper "standard," or to make all of one size? 3. Are garden or field peas good for bees?—F. HAYES, *Hatfield Peveril, Witham, Essex.*

REPLY.—1. The best advice we can offer under the circumstances is, first, the investing of a few coppers in a book on bees (say "Modern Bee-keeping," price 7d.). Next, allowing both hives to go on as they now are, and while giving a limited amount of surplus room when the bees are ready for it, let them swarm, and put the swarms in hives made in accordance with the instructions in your 7d. book. Twenty-one days after swarming you may deal with the badly-combed hives (being also directed *how* in book referred to) by transferring bees and combs to proper-sized frames and hives. 2. By all means revert to "standard" sized frames, and we advise buying these instead of making them. But, in any case, make the hives to fit the frames, not the opposite. 3. The blossoms of peas are not counted among the sources of honey.

[1268.] *A Prolific Queen.*—In the middle of this week I was examining a hive of three combs, to which, about a fortnight ago, I united another small lot. I noticed a great many cells (which were surrounded with healthy brood) in which more than one egg had been deposited. In one cell I counted as many as nine eggs, and a great many cells with as many as four and five eggs in each. I also saw in a few cells two grubs about two days old. There was a good lot of brood on two of the three frames. Is not this rather unusual?—W. A. WARREN, *Petersfield, May* 4.

REPLY.—No doubt a stock on eight or ten frames would be far more suitable for the above queen than one on three frames, but it is not uncommon for prolific queens to duplicate eggs as stated under the same circumstances. "Nine eggs" in one cell is, however, very unusual indeed.

[1269.] *Removing Bees from House Front.*—I should be much obliged if you could advise me as to best means of securing a stock of bees which have for some years been lodged in the wall of a house, between the ceiling of one room and the leads of a balcony above. The bees have found entrance by means of a ventilator grating, which now serves as the door of the hive, and I can get a plumber to take up the lead of the balcony above the place where the combs are. I might then either put a skep over the opening in the leads and drive the bees up into it by blowing smoke in through the ventilator, and after the bees have gone up into the skep, cut out the comb; or I might fumigate the bees with chloroform as recommended in BEE JOURNAL, July 26, 1894 (page 297), and then cut out the combs with bees attached. Which of these methods would you recommend? I have a frame hive in my own garden (about 300 yards away from the house where the bees are) containing a few queenless bees into which I hope to put the stock if I can remove it safely.—J. CONSTANCE BROWN, *Harrow.*

REPLY.—We strongly advise our correspondent endeavouring to enlist the friendly help of some bee-keeper of experience in the proposed operations. So much depends on the conditions under which the bees and combs are found after being exposed to view, that it is very difficult to advise the best course while lacking this knowledge. Perhaps some reader residing within easy distance of Harrow will volunteer help?

[1270.] *Straw Supers for Exhibition.*—A prize is offered at our local flower show for "best straw top of honey," and, not knowing how honey is judged, may I ask through your valuable journal—1, which are the most important points in judging, and how can I secure a good "top"? 2. Is there any preference as to the shape? 3. Are there any means of fixing foundations in straw tops? 4. Does quantity as well as quality count? 5. Having bar-frame hives, could I not get a larger "top" from one of them than of an ordinary straw skep?—NOVICE, *Oban, N.B., May* 3.

REPLY.—1. The main "points" in a straw "top" or super for exhibition are that it be filled with thick, even, well-filled combs, perfectly clean and of good colour, every cell being sealed over, and all the combs dry and nicely "rounded off" on lower edges. To secure such a top it should be given to the bees just when the hive is populous and honey coming in well, so as to secure its being quickly filled. 2. The flat-topped one presents the best appearance on the show bench. 3. Narrow strips of thin lath with starters of foundation attached may be fixed into the roof by means of a couple of wire nails pushed through the laths and into the straw, 2 in. apart from centre to centre. 4. Undoubtedly a large and handsome top is more commendable than a small one equally handsome. 5. The frame-hive certainly gives some advantages to a skilled bee-keeper, but there is no reason why a good skep should not produce the winning "top."

[1271.] *Bees storing Sugar-Syrup in Supers.*—I wintered two stocks on the "Wells" plan, one on six, the other on five frames. At end of March each lot had formed a brood nest in centre of its own compartment, while nearly all holes in perforated dummy were closed up. The six-frame lot came out strongest, and have built up well, and a fortnight since had eggs in drone cells and brood on every frame. The others are building up more slowly, but doing fairly well. I have stimulated both by uncapping stores at intervals, and the strongest lot has a feeding-dummy filled with Porto

Rica sugar. I find this stock is storing and sealing something, and top edges of combs are white with newly lengthened-out cells. I want to add super to try and get some surplus from fruit-bloom, but don't want any sugar-syrup stored. Kindly say, is it probable that the bees are converting sugar into syrup, and storing it; and is there any danger of its getting into super if feeding-dummy is left in when former is added? Porous quilting only used above frames with plenty of warm wrapping over. Your advice will be esteemed by "STINGBUG," *Croydon, May* 1.

REPLY.—If "feeding-dummy" contains more than a pound of the raw sugar referred to, we should advise its removal before supering. Otherwise harm would follow, as the sugar would be consumed in comb-building.

We cannot quite compliment "Stingbug" on his choice of a *nom de plume*. It isn't *nice*, and if his bee-friends should get to know it, just fancy such a name sticking to one—even in fun!

[1272.] *Uniting Weak Stocks in Spring.*—On going through my hives, I find that in one—a very weak stock—the queen has been laying eggs, two, three, and, I think, even four in a cell. 1. What is this a sign of, and what ought to be done? 2. Three of my stocks being weak, but all having fertile queens, would it be advisable to unite any or all of them?—(Rev.) E. H. PUTTOCK, *Halwill Rectory, N. Devon.*

REPLY.—1. The queen is evidently a prolific one, and needs a stronger stock of bees to keep pace with her egg-laying powers. 2. It would be very helpful to the first-named stock to add the bees of one of the latter to it. For the rest, it is always advantageous to unite weak lots of bees in spring. Only strong stocks can be made profitable.

SEASONABLE QUESTIONS.

ANSWERED BY C. M. DOOLITTLE.

EARLY SWARMS.

Question.—I am desirous of securing early swarms. Would there be a gain or loss along this line by putting on surplus cases of sections?

Answer.—It might be safe to say that, taking early swarms into consideration, there would be a disadvantage or tendency towards a few days' delay, if the surplus arrangement is put upon the hive before the bees swarm. Heat is one of the elements in forcing early swarms; hence, by putting on the surplus arrangement before the hive is crowded with bees, much of the heat from the colony will be distributed up among the sections, which would retard swarming, as it also does brood-rearing. If early swarms are what we *must* have, even if we have to sacrifice other values, then it is best to keep the top of the hive as close as possible, and stimulate the bees by feeding them or otherwise. Later on, when the hive becomes crowded with bees, and preparations for swarming begun, the placing on of sections may not delay it, but if we count surplus honey a gain, then I can conceive where there would be a gain in putting on sections as soon as our main honey-harvest opened, as it is often the case that, with all our crowding and desiring early swarms, the bees will obstinately refuse to swarm, when we not only fail to accomplish what we are after, but lose a part or all of the honey crop we might have had if we had put on the sections at the proper time. I verily believe that, during the past, when conducting experiments along this line, I have sustained more loss by trying to force swarms by crowding the bees than by giving them too much room. Hence my advice of late years has been to place the sections on the hives at the proper time, no matter whether swarming is desired or otherwise, resting assured that, with the majority of bee-keepers, more swarms will issue, when doing our best to secure a good crop of section honey, than we could expect under any conditions, and fully enough to satisfy any reasonable person.

WHEN TO PUT ON SECTIONS.

Question.—When is the proper time to put on sections for surplus?

Answer.—No set time as to month or day can be given for putting on sections in any locality, as all depends on the strength of colony and the time of the opening of the blossoms which give us our main honey crop, both of which are advanced or retarded in accord with the earliness or lateness of the season. Some say, put on all surplus arrangements as soon as the first buds giving our surplus honey are about bursting open, no matter about the strength of the colonies. Others tell us to put on sections as soon as the colonies are strong enough, without any reference to the time of the blooming of the flowers, they saying, "It is a mistake to put off putting on sections till the honey harvest is upon the bees, as they will sometimes waste time looking through the surplus apartment before going to work." I cannot agree with either of the above, as it savours too much of the old "luck in bee-keeping" we used to hear so much about, and does not give credit to any apiarist of managing his business intelligently. After years of experimenting, to know just when the sections should be placed upon the hive, I have arrived at this: Wait about putting the sections on till the hives become populous with bees and the combs well filled with brood, and till the bees are securing enough honey from the fields to begin to lengthen the cells along the tops of the combs next the top-bars of the frames, or build little bits of comb here and there about the hive. When we see this it is time to put on the sections; for if we delay longer we are sure to lose in time and honey; while if we place sections on the hive, no matter how populous with bees it may be, before

any honey is coming in from the fields, we shall lose by the bees gnawing or tearing down more or less of the foundation placed in the sections. If we use only starters of natural comb in our sections, then they can be placed on the hive as soon as the colonies are strong in bees and brood, if we so desire; but even then I can see nothing gained over the other, unless we are liable to be crowded for time at the *right* time for putting them on. If my memory serves me rightly, Dr. Miller has put forth the claim that it is only after the honey season is over that the bees gnaw holes in and tear down foundation, which may be correct with him in his locality; but with me bees always mutilate foundation in the sections, more or less, at any time of the year when an abundance of numbers, or hot weather, crowds them into the sections at a time when there is no honey coming in. I had scores of sections one season in which all the upper half of the foundation was gnawed away but a little strip or neck about ⅜ to ½ of an inch in width; and when honey began to come in, and the foundation was worked out, it twisted and turned to such an extent that it was attached to the separators on either side, thus spoiling such sections for market when they came to be removed, as the honey would be set to running in getting the combs loose from the sections.

WHEN TO PUT ON SECTIONS ON NEW SWARMS.

Question.—When is it best to put on sections on a hive having a new swarm?

Answer.—That will depend somewhat on how you work. If your swarm is large, and you have full sheets of foundation in the brood-frames, it is well to place a case of sections (and they should also be filled with foundation) right on the hive when the swarm is run in; but should you fill the sections with foundation, and use only starters in the brood-frames the queen would be likely to go into the sections to deposit her first eggs unless a queen-excluder were used, in which case she could not get into the sections, no matter how the hive was arranged below. With nothing but starters in the brood-frames, and no queen-excluder used, then it is best to wait about putting on sections till the queen has commenced laying in the new comb built below, when the sections can be put on without fear of brood in them. The plan I consider the best, and the one I use more largely than any other is, to contract the brood-chamber to two-thirds its usual size, using only frames having starters in them of foundation about half an inch wide, on top of which is placed a queen-excluding honey-board. The new hive thus prepared is set on the stand of the parent colony while the swarm is out, and the sections from the removed hive placed over the queen-excluder on the new, when the swarm is hived in this new hive on the old stand, when the old or parent colony is placed at some distance away on a new stand which we wish it to occupy. In this way work does not stop in the sections at all, and we, as rule, get the frames in the contracted brood-chamber filled with nice straight worker combs, at a less cost to us than the purchasing of foundation and fitting it into wired frames.—*Gleanings.*

WEATHER REPORT.

WESTBOURNE, APRIL, 1895.

Rainfall, 2·25 in.	Brightest Day, 14th, 12·7 hours.
Heaviest fall, ·52 in. on 24th.	Sunless Days, 2.
Rain fell on 14 days.	Below average, 39·9 hours.
Above average, ·72 in.	Mn. Maximum, 52·4°.
Max. Temperature, 62° on 17th.	Mn. Minimum, 39·5°.
Min. Temperature, 28° on 1st.	Mean Temperature, 45·9°.
Minimum on grass, 20° on 1st.	Maximum Barometer, 30·40° on 12th.
Frosty nights, 2.	Minimum Barometer, 29·23° on 7th.
Sunshine, 163 hours.	

L. B. BIRKETT.

Bee Shows to Come.

June 12, 13.—Essex Agricultural Society's Show at Southend. Entries close May 27. Schedules from F. H. Meggy, Hon. Sec. Essex B.K.A., Chelmsford.

June 24 to 28.—Royal Agricultural Society's Show at Darlington. Entries closed. Secretary, J. Huckle, King's Langley, Herts.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries close July 1. Schedules from Jas. Birch, Sec., 3, Brunswick-street, Liverpool.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

R. PANTON, GEO. STOCKS, AND E. T. J.—*Concerning "Notes by the Way."*—We are very pleased to have your appreciation of the sentiments expressed by our correspondent, Mr. Cribb, in the first par. of his letter (2050, p. 174), and need hardly say how heartily we concur therein, as, no doubt, will our readers generally.

E. OLDHAM (Ashton-on-Mersey).—1. Frames like sample sent we should consider dear at any price. The appliances of which you complain were, no doubt, sold as a cheap job lot, but if anything like sample they could in no sense be called in "good condition." As to "obtaining redress," we cannot assist you. 2. We always advise the use of excluder zinc below boxes of shallow-frames worked for extracted honey.

SAMUEL HEAD (Ivybridge).—*Bee Books.*—1. The issue now being sold of the "Bee-keepers' Guide Book" is the eleventh edition, price 2s. 6d. cloth gilt, or 1s. 6d. in paper covers (postage 2d.). The largest work on bees published in this country is Cheshire's "Bees and Bee-keeping," price 16s. 2. The measures taken for disinfecting the diseased should prove effective if carried out as described. 3. Regarding the danger of infection from diseased colonies in your immediate neighbourhood, nothing can be done beyond the constant use ofprev entives.

S. H. W. (Elgin).—Comb sent contains nothing more than honey (or syrup) and pollen.

ARABIS (St. Ives).—The dead larvæ received are "chilled," not diseased. There is little cause for alarm unless the mischief continues and increases, in which case an examination of the combs should be made.

H. A. O. GRIMBLY (Margate).—*Preventing Swarming.*—It would certainly lessen the chances of swarming if—as you propose—the two front combs are removed once a week and frames with starters only substituted. And in view of your "only seeing the bees once a week" probably no better plan could be followed under the circumstances.

GEORGE MOLTON (Diss).—If the bees have been long queenless it will be better to unite them to the next colony than hope to get a queen raised by giving a comb of brood. Your first question, which reads thus:—"What time to put supers on so as not to have a superfluity of drone-comb?" puzzles us, and we confess our inability to know what is meant by it.

NOVICE (Hants).—1. Comb is badly infected with foul brood. 2. In view of your having some healthy stocks, we should destroy bees, combs, and frames, and disinfect the hive before using again. 3. Your third query answers itself.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

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Prepaid Advertisements *(Continued)*

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30 SEEDLINGS CHAPMAN HONEY PLANT, and 36 Slips of White Rock (grows readily), post free, 1s. Apply, GEO. BREALEY, Grendon, Northants. G 85

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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

DEPUTATION TO THE PRESIDENT OF THE BOARD OF AGRICULTURE.

As mentioned in our last issue, the deputation representing the British bee industry was received by the President of the Board of Agriculture, on Tuesday, the 7th inst., at the offices of the Board, St. James's-square. The right hon. gentleman was accompanied by Mr. T. H. Elliott (permanent secretary), Mr. Anstruther (private secretary), and Major Tennant. Reference to the names (on p. 181) of those who supported the deputation will show how large and influential it was, including no less than nineteen members of Parliament. Lord George Hamilton, M.P., Sir John Hibbert, Mr. Leonard Courtenay, M.P., and several others, though unable to attend, also wrote expressing sympathy with the movement.

The Right Hon. Sir John Gorst, in introducing the deputation, said :—Mr. Gardner, I have the honour, sir, of introducing to you a deputation which represents the British Bee-keepers' Association, an association which has been engaged for twenty-one years in endeavouring to spread the culture of bees amongst the rural population of the United Kingdom. It is quite unnecessary for me to point out to the Minister of Agriculture the immense advantage which the spread of an industry like this would be to the rural population. It gives the cottagers a means of adding to their incomes, not only without any loss to the community, but a means which, by largely increasing the fertility of seeds and practically increasing the supply of fruit, is actually indirectly beneficial to the districts in which it is carried on ; and at a time like the present everything which increases the comfort and the means of our rural population is deserving of national encouragement (hear, hear). Well, the efforts of the Bee-keepers' Association have been seconded in recent times by the application of the Technical Education grants, and by money the County Councils devote to lectures upon this subject, and I believe there is every hope that these lectures will produce practical fruits, and that the keeping of bees will be more extensively carried on by our country population. The Agricultural Colleges have also moved in the same direction, and are making the study of bees a distinct part of their curriculum, but all the efforts in this direction are at present threatened with destruction by the prevalence of a certain disease amongst bees known by the name of "foul brood," which is contagious, which spreads from hive to hive, and which threatens most seriously to interfere, not only with the progress of the industry, but with its maintenance in its present condition. The efforts which the Bee-keepers' Association—along with the County Councils and other local authorities—are making to extend this industry will be absolutely abortive, unless some means can be adopted by which this disease can be checked ; for when cottagers find that (after a considerable amount of trouble, and taking great care of their hives) through no fault of their own, they contract this contagious disease amongst their bees from their neighbours, and lose the whole fruits of the industry, they are only too ready to abandon what is after all a novel industry to them. This deputation comes, therefore, to you, as the Minister of Agriculture, to ask that you will take this into your consideration ; to ask whether, proceeding upon the lines which have been adopted in the case of other rural industries, in regard to cattle, sheep, horses, and pigs, you will do something to prevent the spread of this contagious disease ? They desire to ask whether the department over which you preside will provide some measures by which the disease can be stamped out, and by which the people of the country will be enabled to carry on this industry with some amount of protection from the Government and public authorities which the larger industries—the breeding of cattle and horses and so on—now enjoy.

I will now ask Mr. Cowan, who is the President of the British Bee-keepers' Association, and who fully understands this subject, to state to you the facts which he, as a scientific man, is prepared to vouch for, and which I think you will find worthy of consideration.

Mr. T. W. Cowan, Chairman of the British Bee-keepers' Association, said :—

It is hardly necessary for me to say many words, since the papers which have been placed in your hands fully express what the British Bee-keepers' Association desires to bring before your notice.

The British Bee-keepers' Association was founded in 1874 for the purpose of advocating the more humane treatment of the honey bee, and likewise for bettering the condition of the cottagers of the country and of the rural population generally. Since its formation, its efforts have met with considerable success, and bee-keeping has been raised from a mere amusement to an important industry, by means of which many in the country add considerably to their incomes, whilst fruit-growers reap the indirect though considerable advantage of the fertilisation of the blossoms by bees.

Much has been done by the Association to spread information. We have now 200 experts who have passed examinations and have obtained first, second, and third class certificates.

Owing to modern methods now prevailing in the country, the amount of honey raised to-day we safely estimate, at least, at 1 cwt

where twenty years ago only 1 lb. was produced. It is very difficult to give statistics for England with regard to bee-keeping. It is more easy to do so for Ireland, as there statistics are regularly collected. We have, however, in England a certain number of county associations affiliated to ours, and of which some twenty have made returns. From these we gather that there must be about 52,000 bee-keepers in England and Wales, and that the amount of honey produced may be valued at from £100,000 to £150,000 a year. This calculation of the value of the honey is based on the Irish Agricultural returns, but in Ireland straw hives predominate, and in frame hives much more honey is produced. The average has been taken at 17 lb. per hive; this will do for straw hives, but with modern hives we can produce from 50 lb. to sometimes 100 lb. per colony. The industry at present appears small, but it is capable of very great expansion. There are vast tracts of country where no bees are kept at all, yet where bee pasturage is abundant, and we are satisfied that at least ten times as many hives could be kept as exist at the present moment.

The only hindrance to a rapid expansion of bee-keeping is the prevalence of the disease known as "foul brood," which is spreading rapidly over the country, making bee-keeping a hazardous occupation. It is a germ disease, and as a cure is uncertain, owing to the difficulty of killing the spores, destruction seems necessary, together with disinfection of hives. The disease is known to exist in nearly every county in England, in most counties in Scotland so far as we can ascertain, and likewise to a great extent in Ireland, and in some places bee-keeping has been given up in consequence. I have myself known of large apiaries destroyed—one, for instance, belonging to Dr. Dzierzon, of Carlsmarkt, in Silesia, who lost 500 hives owing to the disease—and I know of another case, that of Herr Blatt, of Rheinfelden, Switzerland, where 300 hives were lost from the same cause. It is difficult to get ignorant bee-keepers to take precautionary measures, and it sometimes happens that bees are allowed to die out, and the hives are left on their stands, and thus communicate the disease to other hives in the neighbourhood.

Our association is powerless to deal with this disease; we therefore appeal to the Board of Agriculture and the Government to help us in our endeavours to stamp it out. Bee-keeping is recognised on the Continent, and many societies which make it a study are subsidised by the Government of Germany. Quite recently, too, the colony of Victoria has decided to grant a subsidy of 1d. per lb. on all good honey exported. We do not ask for protection of this sort, for we believe that with free trade the quality of our honey will always enable it to hold its own against foreign competition. But the industry has reached a stage when there seems to be a general desire that it should receive some recognition by the Government, and we ask that the Board of Agriculture should collect statistics similar to those collected in Ireland and also on the Continent of Europe, and that some measure of relief be granted by means of compulsory powers, so that this disease of "foul brood" may be stamped out, or kept from spreading. I have no hesitation whatever in saying that if we could grapple with it, bee-keeping would extend rapidly, and the advantages to the country would be very great. Indirectly, its advantages to the fruit-grower and the cultivator would be even greater than to bee-keepers.

Mr. D. Plunket was to have represented Ireland, but as I do not see him present I will, therefore, ask, on behalf of the Irish Bee-keepers' Association and urge that—as "foul brood" exists to a serious extent there—the Board of Agriculture will recollect that if it be proper to grant any measures of relief to England and Scotland, those measures should also be extended to the sister country.

Sir Mark J. Stewart, Bart., M.P., speaking specially on behalf of Scotland, observed—What we really do want are some preventive measures to ensure the stamping out of this disease, foul brood. Up to a comparatively recent date it was almost unknown in Scotland, but since that its ravages have been most marked.—After quoting the case of a Scotch working man, who produces annually from a ton to a ton and a half of honey—he especially pleaded that in the interest of the rural working class the Government should confer on County Councils the power to utilise the services of certified and competent experts—of whom there are many in England—in this matter. After some further remarks, the hon. Baronet proceeded:—As to the draft Bill prepared by the Council of the Bee-keepers' Association, he would merely say that the practical point is to give the inspector power to report to the County Council, and to empower the latter to say whether or not they will stamp out the disease. In concluding, the hon. gentleman further said:—There is a growing desire on the part of many Scotch people, and particularly on the part of the labouring classes, that something should be done to protect this industry. I speak from considerable experience in the matter, and I do not want to see all the honey consumed in this country imported from abroad. We have tens of thousands of acres practically without a bee upon them, and this condition of affairs could be rectified by a little fatherly care on the part of the Government.

Mr. T. Snape, M.P., who next spoke, said:—Although I am announced to address you Sir, "as representing County Councils," the subject the deputation has in hand has not, so far as I am aware, been brought before the Association of County Councils. Therefore, I cannot claim to speak for the County Councils generally, but only for the County Council of

Lancashire. As you are aware, sir, the Lancashire County Council devotes a sum of £40,000 a year to the purpose of technical instruction, and a large proportion of that amount is devoted to agricultural technical instruction. Of that £40,000 we have devoted some £250 annually to the special purpose of stimulating apiculture and leading the agriculturists of the country to pay increased attention to the subject, and we are very anxious to stimulate this portion of *petite* culture amongst agriculturists. Therefore, the Lancashire County Council is thoroughly in sympathy with the Bee-keepers' Association in their desire that some steps should be taken by the Department to prevent the continuance of this disease called foul brood. They feel that if it has been found possible to stamp out other pestilences that afflict agriculture, it is possible also to extinguish this disease.

Continuing, the hon. gentleman strongly advocated increased technical instruction as a means of enabling persons to combat the disease and preventing the destruction of their bees. He also thought that the funds of the department might be usefully applied in assisting County Councils in increasing the amount of instruction in apiculture, as was already done in giving grants to the university extension colleges for agricultural purposes. In conclusion, Mr. Snape observed that, according to a computation, not one-tenth of the amount which could be obtained from bee-keeping is at present realised, and, as the one-tenth that is secured amounts to between £100,000 and £150,000 annually, it is obvious that, if they could lead the agricultural population to pay more attention to the subject, that sum could be increased to a million and a half per annum (hear, hear). No doubt the draft bill which had been prepared, was capable of improvement, but he thought it might form the basis of legislation, if legislation be needed to give the department increased powers.

Mr. C. W. Radcliffe Cooke, M.P. :—In the absence of Mr. Rankin, who is President of the Herefordshire Bee-keepers' Association—who has been called away to attend a Committee in the House of Commons—I venture to say a few words. My interest in the subject is chiefly centred in the orchards of Herefordshire and in the fruit, and the product of the fruit in a liquid form. Now, we cannot get that product of the best quality unless the flowers are properly fertilised, and they are not properly fertilised, as we know, except with the help of these small insects. I know also that the small cottagers do derive considerable benefit from the sale of honey, or rather, I should say, perhaps, that they did do so, for of late I think I shall be borne out by the members of the British Bee-keepers' Association when I say there has not been so much bee-keeping as there was, ten or twelve years ago, in consequence of the existence of this disease, called "foul brood," which has deterred people from going into the industry. Some years ago in my own portion of Herefordshire one farmer alone staged at the honey fair in Hereford 19 cwt. of honey. Many cottagers also followed the industry, and I know of one or two who practically paid their rent out of the money they received for the honey produced. I do not think they could do so now. I think that the first step that ought to be taken is to procure statistics on the subject. If we can get statistics from Ireland why cannot we get the same from England? I feel almost assured of this, that if these statistics were properly collected—and the Bee-keepers' Associations could easily collect them from the cottagers with fair accuracy—then I am convinced that the statements of previous speakers as to the industry being larger than is generally supposed would prove to be correct. Something has been said as to not requiring any money from the Government in support of the proposition of the Bee-keepers' Association, but, for my part, I think we ought to have some assistance from the Government.

The speaker further observed that, as in Ireland the Congested Districts Board had made money grants for starting cottagers in the industry of bee-keeping, he did not see why help of the kind now asked for could not be had for English bee-keeping. Continuing his remarks, the hon. gentleman mentioned the fact that, according to a German Blue-book issued last year, and reported to the Royal Commission on Agriculture, in Germany they give assistance towards apiculture, and if in foreign countries they assist agriculture—even small agriculture—in this way, how seriously are we handicapped in foreign competition (without suggesting such a thing as protection) if our Government does not assist us also! As to the proposition of this association, I do not think it is their duty to do more than offer suggestions to the Government. It appears that our colonies and other countries have taken action in this matter for the purpose of putting an end to foul brood, and, that being the case, surely we ought to do something. If foreign Governments have taken action, why should not our Government? These Governments took action because individual enterprise and effort were not found sufficient for the purpose. And individual enterprise and effort will not be sufficient for the purpose in this country. Those interested in the industry here are small people, and they are scattered all over the country — over wide areas. How can they make their appeal? How can cottagers combine to influence the Government? The matter is one which the Government should take in hand itself. Furthermore, poor people have in their property a great incentive to endeavour to make a little money when they can. The speaker concluded an animated speech as follows:—I hope I have said enough to show that the Board of Agriculture is the authority to take

action in the matter, first of all by collecting statistics to show what the nature and extent of the industry is, and then by following the example of foreign countries a Bill could be brought forward. It would receive careful attention. None of *us* would oppose it, and in view of the fact that an annual grant is given to Ireland for bee culture, I do not think there would be likely to be opposition from that quarter. If the Bill were a reasonable one—as no doubt it would be—and there were no opposition, it would pass through the House rapidly, and the whole question could be disposed of in a few weeks.

Mr. J. Round, M.P.:—I represent the National Agricultural Union, which is a large body extending all over England, its object being to watch the interests of the land. A great many members of that body are interested in the bee-keeping industry, and they are anxious to see measures adopted to effect the objects expressed by Sir Mark Stewart and other speakers. If you, Mr. Gardner, can do anything to assist us in checking and preventing the spread of this disease, "foul brood," you will be doing a great deal for those who take an interest in bee-keeping.

Mr. Herbert Gardner's reply was as follows:—Sir John Gorst and Gentlemen, I can assure you that I have received this deputation with the utmost pleasure, and that I have listened with the greatest interest to the very able speeches which have been made in support of the objects which you have at heart, and I can also further assure you that I most thoroughly sympathise with the objects which you have now brought forward (hear, hear). I admit at once that the Board of Agriculture is undoubtedly the proper Department to which you have a right to look, and to which you have a right to apply, though there is another Government Department which, though not so directly interested in the subject, still regards it with interest—I mean the Education Department. That Department is also interested in the subject, not only on account of its connection with technical education, of which apiculture forms a part, as has been pointed out by various speakers, but also because, as I am informed, the matter is one of great importance to every elementary school teacher in various parts of the country. Well, as President of the Board of Agriculture, I am very glad to hear that we have one interest still remaining connected with agriculture which is not afraid of foreign competition (hear, hear). I think even on that account we ought to do all in our power to assist bee-keeping as far as we are able (hear, hear). We are all of us anxious, I am quite certain, to preserve, to encourage, and to stimulate such of our cottage industries as are useful and profitable, and of these I should undoubtedly be of opinion that bee-keeping is not amongst the least useful and the least profitable (hear, hear). I thoroughly endorse the very able remarks made by the introducer of this deputation as to the advantage which an industry such as this must be to the cottagers in the various parts of the United Kingdom, especially at a time when agriculture in these districts needs all the assistance we can possibly give it. And, moreover, I am glad to hear and to know that this industry is one which might, with advantage, be enlarged and extended. As I gather from the statistics given by Mr. Cowan, there are something like 52,000 bee-keepers who make a profit, or, at any rate, produce an industry which is of the value of something over £100,000 a year, so that at the present moment, if my calculation—but momentarily made—is right, it is of the value of about £2 a head to each bee-keeper. This is, of course, a matter for improvement, and might very well be extended. Well, under these circumstances, you will see at once that any reasonable and practical action which I or the Government can take to assist this ancient and profitable industry will have our heartiest support. It is unnecessary for me—because it has been ably done by various speakers—to remind you that bees, on account of their fertilising action, are almost a necessity to horticulturists and to farmers generally, and on every account it would not only be regrettable, but absolutely harmful to such interests if bee-keeping, through discouragement or disease, were to become one of the lost arts of this country. Therefore, having made these preliminary remarks, I hope you will understand that if I venture to put before you certain difficulties that seem necessary to be surmounted before we can take the action you are here to recommend, it is not because I am unsympathetic to your proposals, but rather that I wish, with your assistance, to arrive at a practicable and possible solution of these difficulties with a view to legislation as soon as possible. I propose now, after the remarks that have been made, to shortly place before you certain points—I will not call them difficulties, but will merely call them points which require settlement—and which I shall be grateful for your assistance in solving. In the first place, I should like to ask you whether, in the opinion of scientific bee-keepers, any preventive or remedial measures are possible in dealing with "foul brood?"

I am told that the use of naphthol, phenol, and bromine sometimes prove efficacious as a curative of the disease; but the evidence does not seem conclusive on that point, and owing to the danger of infection—by the bees of other neighbouring colonies infesting the hives where there are sick bees—it is a moot point whether destruction is not the safest and surest remedy in every instance (several voices: "Yes, destruction!"). I am glad to receive from honourable gentlemen a positive opinion on that subject. I shall be glad of any information which scientific bee-keepers can give me on this subject. I should like to hear from any practical, scientific bee-keeper

an opinion as to the action that is to be taken by any public authority, as such action must necessarily be based upon a system of compulsory notification of the disease wherever it occurs. That compulsory notification of the disease must be enforced, if you require it, by proceedings for penalties in the event of non-compliance of bee-keepers with the regulations that are set down. The second question I will put—and it is a very important one—for your consideration is whether you think that public opinion amongst bee-keepers is sufficiently matured and pronounced to justify the introduction of such a compulsory system; and without animadverting in any way on past history, I will point out that the Board of Agriculture have had some experience in regard to adopting public opinion. Without regard to any particular instance, I may say from time to time deputations have come to us, and frequent speeches have been made in the House of Commons, and articles have been written in the journals, pressing the Government and the Board of Agriculture to take action in stamping out diseases, and when any action has been taken, involving as it does compulsory notification and penal action—penal action for non-compliance with this notification—it has happened that the very speakers and the very journals who have been so anxious to urge this action on the Government have found, when it came home to them in their various parts of the country, that the action of the Government was absolutely unfounded and entirely wrong; therefore, I should like to be thoroughly sure before we take action in the matter that public opinion amongst the whole of the bee-keepers in the country is that the action you propose is so well founded and efficacious that we shall not be met by an outcry that we are endeavouring to do something that we ought not to have undertaken.

[*In view of its importance to the British bee-keeping industry, we had intended to publish the full report of the proceedings of which the above forms part.*

We are, however, reluctantly compelled, from lack of space, to hold over the completion of Mr. Gardner's speech and the concluding portion of the proceedings till next week.—EDS.]

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the council was held at 32, Sackville-street, Piccadilly, on Thursday, the 9th inst. Present: T. W. Cowan (in the chair), H. Jonas (vice-chairman), Hon. and Rev. H. Bligh, H. W. Brice, W. B. Carr, C. H. Hooper, J. H. New, E. D. Till, Rev. W. E. Burkitt, and J. M. Hooker (ex-officers); John Huckle (secretary). Mr. W. O'B. Glennie (treasurer) wrote regretting his inability to be present.

The minutes of the last meeting of the council were read and confirmed. The statement of accounts for the month ending April 30 was considered, and various bills ordered to be paid.

A letter was read from the secretary of the Royal Agricultural Society stating that the council would be pleased to grant the use of their large tent in the show-yard at Darlington for a meeting of bee-keepers, the date and hour of meeting to be subject to arrangements to be made for the holding of meetings by other societies.

The council devoted some time to the consideration of the several points raised by the President of the Board of Agriculture during the proceedings attendant upon the deputation attending at the offices of the Board, 3, St. James's-square, on the 7th inst. Resolved, that Mr. H. Jonas (vice-chairman), Mr. W. B. Carr, Mr. W. H. Harris, and Mr. E. D. Till be appointed a special committee to confer with the officials at the Board of Agriculture in accordance with the suggestions made by the President of the Board. (A full report of the proceedings at the offices of the Board of Agriculture will be found at page 191.)

The following new members were elected:—Mr. B. Boothroyd, Solihull, Birmingham; Mr. J. Hammond Horn, Sussex Villa, Bedale, Yorks; the Rev. Glynn Grylls, Sheldon, Honiton; Mrs. B. M. Kirk, Stillington, Easingwold.

The council adjourned to June 13.

The usual Quarterly Conversazione followed, particulars of which will appear in our next.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of April, 1895, was £2,729.—*From a return furnished by the Statistical Office, H.M. Customs.*

LINCOLNSHIRE BEE-KEEPERS' ASSOCIATION.

The quarterly committee meeting of the above association was held at the offices of the Lincolnshire Apicultural Institute, on Friday, the 3rd inst.—G. J. Young, Esq., J.P., in the chair. After the minutes of the previous meeting had been passed, and some accounts certified for payment, the list of subscriptions to the numerous local shows was compiled. Post-cards and manifold books were ordered to be printed for the use of the experts on their tours, so that correct detailed statistics could be returned to the hon. secretary. The question of special honey labels for the use of the members of the association was then discussed, and it was decided to obtain some suitable designs for same. A copy of

"Cheshire's Bee-Keeping" was ordered to be purchased for the library, and also two complete bar frame hives in travelling cases for the use of lecturers in the bee-tent. A vote of thanks to the chairman concluded the meeting. —*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE JOTTINGS

FROM HIGHWAYS AND BY-PATHS.

[2071.] *Dealing with Weak Stocks.*—Referring to this question, may I be allowed to inform your querists that, in my opinion, the only profitable use to be made of weak stocks—in view of the present outlook—is to join them up three or four together, or otherwise add them to the nearest strong hive. Every spring we find some stocks that "won't get on," why, who can safely say?

It may be that cessation of income—after removal of surplus the previous autumn—has stopped breeding too soon, resulting in a large percentage of old bees which die off rapidly in the following spring, and are quite unable to bear the strain of the early brood-rearing. Consequently, instead of building up rapidly at that time, "spring dwindling" follows. One thing is certain, viz., that one season's *work* is all that can be got out of each bee. It may live through the following winter —and by so doing help to keep its comrades alive—but young bees, bred in autumn—which have undergone no wear and tear of hard work—are absolutely necessary for the profitable stocks of this year. It will be noticed that stocks weak in bees often stand the winter better than stronger ones, the reason being that young bees predominate, and they build-up rapidly in spring because of this latter fact.

Sometimes, no doubt, the queens are worn out and want replacing. But, be the cause what it may, there are generally a few weak stocks in every apiary, and, as already said, if two or three are united now a flourishing and profitable colony may be secured. Care, however, must be exercised in preserving the most prolific queen. Bees will unite readily now if the unsatisfactory queens are removed twenty-four hours in advance. When uniting, I sprinkle the bees with a little warm and very thin syrup scented with aniseed, but a piece of naphthaline placed in each hive when removing the queens will answer. All combs containing brood should be put in the centre, and the hive filled up with such of the combs as contain honey, some of which may be uncapped. Arrange the frames and bees *alternately* with those to which they are joined, and no fighting will occur. If the operation is performed in the evening hardly a bee will fly. Should there be more frames than the hive will accommodate, shake the bees from such frames on to the alighting board in front, opening the entrance wide to allow them to run in. And if the queen to be kept is a valuable one, it would be well to cage her for twenty-four hours, although just at this season I hardly think it necessary, but one or two of the queens to be deposed might be kept for a day or two in small boxes with a few bees and a supply of food, in case of an accident.

Something like a Bee-plant. — Sacaline (Polyonum sachalinense) is the name of the new and wonderful forage and honey plant (?) described and illustrated in *Gleanings*. It is said to be "perfectly hardy, needs no cultivation, and no manuring; once planted, it stands for ever; grows in poorest soils; young shoots and leaves may be eaten as a vegetable; produces 90 to 180 tons of green forage per acre; grows 14 ft. high by June; enriches the soil, affords shade in summer, and protection from storms in winter. Floods will not destroy it. Fire will not kill it." I am tempted to say, How's that for high? The editor of *Gleanings*, however, puts on the finishing touch by adding:— "Last, but not least, there are reports floating around that Sacaline is a great honey plant. I cannot find out anything very definite in regard to it. There do not seem to be any 'posies' in the picture, but perhaps the plant had not got quite tall enough to bear honey when the photograph was taken," and that "further reports in regard to it should follow." I am going to await those further reports.

Production of Wax.—I agree with Mr. Woodley (2056, p. 182) that the whole question turns on its profitableness; but I think the estimate of 10 lb. to 12 lb. of honey being necessary for the production of 1 lb. of wax far too high. He no doubt remembers the time when we were told it took 20 lb. to 25 lb. to produce the same result. I consider about 6 lb. of honey and a still less amount of sugar to be much nearer the mark, especially when pollen is abundant, the latter figuring largely in wax production. Of course Mr. Woodley's proposal about returning to old methods is not meant seriously; but that there is waste more than is apparent on the floor-boards, I am con-

vinced, and if we are to get the full benefit from our craft that waste should be avoided. If one bee-keeper can get 3 lb. of wax per hive, and his honey crop into the bargain, there is a leakage somewhere if others cannot do likewise.

Uniting Bees.—W. Stolley, in *American Bee Journal*, says :—"In uniting bees, kill off all queens but one, and place slices of onion in each hive to be united ; in twenty-four hours transfer all queenless bees to the one containing queen. If combs are too many to go in hive, shake bees in front of hive, and a puff or two of smoke will finish the job. No bees will be killed and no fighting follow." He adds, "this is a practical and sure way of uniting bees, and has never failed with me."

Quadruple Hives.—E. France, in *Gleanings*, gives a full and illustrated description of a quadruple hive he uses ; he wintered 140 colonies in 1894-5, and has not lost one. Two colonies in one hive is cumbersome enough for my liking, and unless there is any commensurate advantage in having one twice the size I shall not be tempted to try it. Nothing is said about perforated division boards ; in fact the division boards used are described as double thickness of ⅞ lumber ; nor is anything said about an increased honey crop by this method, and the bees appear to work in separate supers, so that I assume they are considered as four colonies and not one.—H. W. Brice, *Thornton Heath, Surrey.*

SWARMING STARTED.

[2072.] There having been no notice so far in the B.B.J. of any swarm this year, I write a line to say that I had one to-day (May 11). Considering the cold of last February, and the late spring, this appears to me to be a very early swarm. — Lionel Burrell, *Sidcup, May* 11.

FREE BEE-PLANTS.

[2073.] I beg to again offer my surplus plants of Borage and Canadian balsam free to bee-keepers who send name and address, with stamps to cover cost of postage. Last year I had the pleasure of supplying over sixty applicants with one or two dozen plants each, and if there was some trouble connected with the task, I am repaid by the forage they would furnish to the bees. — H. Crawley, 250, *Canbury Park-road, Kingston-on-Thames, May* 3.

THE LATE THOS. BADCOCK.

[2074.] Having on several occasions met the late Mr. T. Badcock, I can bear testimony to your remark on page 162 of B.B.J. His disposition was most genial to all with whom he came in contact, and no trouble was too great for him that would further the bee-keeping industry. For the sake of all who were near and dear to him, it is gratifying to see that a subscription has been started through the medium of your columns. Under the circumstances I am sure that contributions, however small, will be gladly accepted in aid of the fund being raised for his family. I enclose a small donation of 5s.—A. W. Harrison, *The Apiary, Potters Bar.*

Queries and Replies.

[1273.] *Disinfectants for Foul Brood.*—Last year some of my stocks were affected with foul brood. I extracted all stores and fed up with medicated syrup, and, so far, have only seen one stock affected this season. Being desirous of disinfecting all frames, hives, quilts, &c., I should be glad of your assistance on the following points :—1. What strength bromine is that used by the Rev. G. Bancks, and does water have to be added when using ? 2. If steam be used, should it be under pressure ? and would it not remove the paint ? 3. Would dipping frames, &c., in spirits of turpentine efficiently disinfect them ? I may mention that I am using eucalyptus oil in all stocks in the manner described in B.B.J. some two years ago, as bees will no longer take food.—Anxious, *Essex, May* 11.

Reply.—1. Refer to B.J. for March 14 last, page 103, where Mr. Bancks himself describes his use of bromine. If used only as a disinfectant, it might, of course, be used of greater strength than when experimenting with it on living bees. 2. We cannot think that the idea of using steam is a very practicable one, and would ourselves prefer boiling for ten minutes, or more. Reference to B.J. for March 10, pp. 92 and 93, will show about all that can be said as to using steam under pressure for disinfecting. 3. We think not ; besides, there are many objections to using turpentine for the purpose.

[1274.] *Suspected Foul Brood.*—Last September I went with a friend—who knows nothing about bees—to a friend of his to bring a present of a hive from where there are a score of others, situated in a nice hilly locality five miles' distant. We got the hive safely home, and it was placed in a small garden walled in. As far as could be judged at the time, and up to the beginning of April, they were healthy, but within three or four weeks past a rather sickening smell comes from the mouth of the hive, and is perceptible two or three yards off. The hive is full of bees and honey. We cannot inspect the young brood as the combs are not built within the bar-frames, but are running cross-wise. The bottom of the hive is also fixed and immovable. Under the fore-

going circumstances, I beg to ask :—1. By the description given, do you consider the case one of foul brood ? 2. If so, would it be dangerous for me, who have a score of other hives to manage, to be near this hive, or have anything to do with it ? 3. From description of the offensive smell given, would you consider it to be the body of a dead mouse in the hive in a decomposed state ? 4. Would the heavy fall of snow last winter—which was bank high where the hive was placed—have anything to do with the matter ? 5. What would you recommend to be done under the circumstances ? — JOHN MOONAN, *Noan, Thurles, May* 8.

REPLY.—1. It is more than probable that the hive and bees are perfectly healthy. Of course we cannot say with certainty without having a sample of the dead brood, but it is quite common for inexperienced bee-keepers to be alarmed because of the peculiar smell emanating from prosperous hives in the early season when gathering honey from certain sources. Black currant bloom, for instance, yields honey having a very curious smell when first gathered. 2. Where foul brood exists, it is a most risky thing for a bee-keeper with healthy stocks to be handling the combs of infected hives. 3. No. 4. No. 5. Treat the stock as a healthy one so long as the bees prosper and do well, as, according to your description, they are doing at present.

[1275.] *Bees Storing Sugar Syrup in Supers.*—In reply to a correspondent (1271, page 188) you say that feeding dummy should be removed before supering, "otherwise harm would follow, as the sugar would be consumed in comb building." Now, in the previous issue (page 165) one of your correspondents states that sugar is more suitable for wax producing than honey. Why, therefore, should you give a caution against the use of sugar for this purpose ? or has that little word "raw" anything to do with the matter ? 2. In the "Guide Book" it says—"if two swarms issue at the same time, treat them as one swarm, and the extra yield will amply repay the bee-keeper." Does this hold good with three or four swarms, or how far can this be carried ? 3. If you have only one swarm, is it advisable to make an artificial swarm and add to it ? 4. May Lucern be relied on for surplus honey ?—W. X. Y., *Chelmsford, May* 11.

REPLY.—1. We do not quite understand our correspondent's meaning when referring to what he calls "that little word *raw*." We are very pleased, however, to get his query, because of its enabling us to correct a printer's error in our reply on page 188, which should have read thus :—"Otherwise harm would follow, as the sugar would *not* be consumed," &c. Our point was to show that a "feeding dummy," filled with Porto Rico (raw) sugar, should not be left in a hive the bees of which were storing in supers, but that if the dummy contained no more than 1 lb. of the sugar referred to, no harm would follow, as the sugar would be used in comb-building only—not stored in the cells instead of honey. 2. Two swarms are usually found enough to join together. Any further extension of the plan may be left to the choice of the bee-keeper. 3. No. 4. Lucern is considered a very good honey plant.

[1276.] *Birds Carrying-off Bees.*—Is there any way of keeping birds (especially sparrows) from taking bees ? They carry them off from the alighting boards at the entrance. I tried protecting the entrance and front of hives by wire netting last season, but it did not answer, as the birds perched on the wire and took the bees as they entered, and they have begun so doing again. Any hint will be gratefully accepted.—J. B., *Aylesbury, May* 8.

REPLY.—Birds seldom trouble bees except when their usual food is scarce, and we can only suggest the adoption of such means of scaring them as are found necessary by gardeners when protecting fruit-trees, such as coloured threads, &c. As a rule, they disregard all means of frightening them after a time, and this proves the need for only taking precautions at given times, and discontinuing them when the danger has passed away.

Echoes from the Hives.

Kingston-on-Thames, May 1.—Most bee-keepers in this district have lost one or two stocks, not from scarcity of stores, but because the bees were not strong in numbers at the commencement of winter. There was very little breeding done after beginning of September. I lost two stocks myself in January. —H. CRAWLEY.

Midlothian, May 3.—Bees came through winter fairly well, and are now very busy, the weather being nice and warm. Stocks were about the same condition here on April 1 last year as they are on May 1 this year. As regards brood, I have had drones flying from a "Wells" for more than a week. The frame nearest the dummy, having drone comb on the bottom of frame, is the cause of this.—H. MARRS.

Honey Cott, Weston, Leamington, May 11. —May has brought with it nice weather and lots of bee-forage everywhere around, the fields being all ablaze with dandelion bloom, and bees are going ahead finely. Sycamores in full flower and "roaring" with the hum of the bees in them. I have been busy getting boxes of combs ready, tiering them up to be ready for use as required. Yesterday I saw a stock in a skep that had been placed on a frame-hive last season, and which did not swarm. It was not disturbed in autumn at all, but allowed to remain with all the honey gathered. The bees had wintered well, and it was a sight to see them working and rolling in with pollen, &c. Having three stocks a mile

away from home which I did not wish to swarm, I went at night and lifted the bees and combs out of each hive into an empty body-box of the same size, and substituted ten frames with full sheets of foundation. The bees and combs were then set on top, and, after putting on a sheet of excluder zinc, another box containing empty worked-out combs was put over all. I did this to the three stocks, and by this means I hope to prevent their swarming and get new combs in the stock hive below. I can also tier up on top to any extent needed. Temperature one day last week 74 deg. in the shade.—JOHN WALTON.

Flora Apiary, Somersham, Hunts, May 13.—Splendid bee-weather, bees rolling in heavily-laden with nectar and pollen. Had my first swarm yesterday (Sunday). I think our district is the land of promise for bee-forage in spring. While writing I see the apple-blossom is a sheet of bloom, and bees working as if for dear life.—R. BROWN.

Bee Shows to Come.

June 12, 13.—Essex Agricultural Society's Show at Southend. Entries close May 27. Schedules from F. H. Meggy, Hon. Sec. Essex B.K.A., Chelmsford.

June 24 to 28.—Royal Agricultural Society's Show at Darlington. Entries closed. Secretary, J. Huckle, King's Langley, Herts.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries close July 1. Schedules from Jas. Birch, Sec., 3, Brunswick-street, Liverpool.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries close June 29. Schedules from Marshall Stephenson, Sec., York.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. A. AIKEN (Kesh).—1. Comb foundation is of good quality. 2. We know of no dealer who makes glass sections. 3. Mr. C. Cox, of Brampton, Northants, prepares honey-comb designs for sale. 4. Instructions for making appear in RECORD for April, 1890, obtainable for 2½d., post free.

E. E. SCHOLEFIELD (Newton Abbot).—*Figwort* (Scrofularia Nodosa) is a weed known by many names, as "square stalk," "heal-all," and more recently as "Simpson's honey plant." Its flowers are bell-shaped, and in some districts under cultivation it yields freely of thin honey. Height, 4 to 8 ft. It is a perennial found wild in Great Britain in the hedgerows. Being regarded as a weed, we know of no seedsman here who could supply it.

LADY MARY PLOWDEN.—1. All wasps now on the wing are queens. 2. From the bee-keeper's point of view they should be destroyed whenever seen.

W. H. (Newark).—Queen received has never been mated.

JOHN T. H. WARD (Gosport).—Specimens sent are wild bees belonging to the genus *Andrena*, species *Fulva*.

T. J. (Bristol).—*Using Naphthalina.*—Used as per instructions on label attached to every package sent out from this office, naphthaline will never have other than a good effect on bees. Referring to the bees carrying out the pieces, why did you split the two balls into six instead of four pieces? It should never be put behind the dummy, but on the floorboard inside the hive, as directed. We cannot ourselves express an opinion on the expert's view regarding the dead brood without seeing a sample; but whether it be "chilled" only or foul, we advise its removal from the hive at once.

When writing name should be sent according to rule printed at head of correspondence column.

ADDISON BROWN (Darlington).—*Protection for Hives.*—It is always desirable to secure a sheltered corner for hives, and, in very exposed situations, some protection should, if possible, be afforded against bees being blown to the ground in early spring.

TONBRIDGIAN (Kent).—*Ants in Skeps.*—1. It is just possible that "dosing the coverings" of skeps with turpentine may have caused the bees to "ball" the queen before she was cast out. 2. The turps would certainly tend to cause excitement in the hive because of its odour being offensive to the bees, and the latter do sometimes evince their affection for the queen in the very curious fashion of "balling" her to death while excited. 3. If the bees are working well, and carrying in pollen, it may be fairly assumed that the queen is all right.

FRED. ASTBURY (Wellington).—*Transferring Bees.*—We do not recommend transferring bees and combs from skeps to frame-hives. For preference, let the skep swarm, and hive the swarm into the new hive.

J. C. (Romsey).—*Renewing Combs.*—1. So long as there is no brood in the outside frames, they may be removed as proposed, and clean new combs substituted. Put the new combs outside the one on each side having brood in it, and if the bees are strong you may during the present warm weather give one comb in centre of brood-nest, thus adding three frames of new comb at one operation. 2. Yes.

A. O. BUTLER (Hants).—*Size of Hive.*—There is no particular reason why the hive should not be made large enough to hold ten frames, the two slips of wood, and a dummy, too. The only reason for making it smaller—

thus necessitating removal of dummy in summer—is to save expense by reducing the size of hive and outer case.

S. F. C. (Coventry).—Comb contains nothing worse than newly gathered pollen.

Several communications already in type are unavoidably held over till next week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

NATURAL SWARMS, 3s. 6d. per lb. No foul brood. 1894 Queens. ROSE, Feltham.

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BERETON, Pulborough, Sussex. 109

LACE PAPER for GLAZING SECTIONS. **Three neat patterns, 100 strips, 22 inches long, 8d., post free, 500, 2s. 9d., post free. W. WOODLEY, Beedon, Newbury.**

STRAW HIVES, best cane-bound, round or flat top, 1s. 3d. each, 12s. dozen. ABBOTT BROTHERS, Merchants Quay, Dublin. G 59

SPECIAL BEE VEILS, fine silk net, post free, 9d. each. ABBOTT BROTHERS, Merchants Quay, Dublin. G 60

BEES MANAGED and Hives put in Order for obtaining best returns. Low charges.—S. S. G. 153, Wirtemberg-street, Clapham. H 7

BEES, Strong Healthy Swarms all '94 Queens, 10s. 6d. each. Swarm-boxes to be returned. ED. LONG, Cottenham, Cambs. H 11

SIX STOCKS from Apiary purchased from expert, on straight wired combs. Bar-frame hives, 20s. each on rail. CHITTENDEN, Lydd, Kent. H 9

SEVEN HIVES (various); almost new; five have 15 frames. Cash offers. WILLOUGHTHORPE, Stanstead Abbotts, Ware. H 1

TREADLE SAW-BENCH, heavy fly wheel, rising spindle, suitable for making hives, frames, &c. GEO. WEBB, 502, West Green-road, London, N. G 100

SWARMS, 10s. 6d. each; or 2s. 6d. per lb. Apply, ARTHUR FELSTEAD, Rempstone, near Loughborough. G 99

FOR SALE, Four Strong Stocks, Young QUEENS, in Frame Hives, with section crates, cheap. WILLIAM MILNE, 6, Russell-street, West Hartlepool. H 8

SELLING OFF STOCKS and SWARMS. New and second-hand appliances. Show stands. Price low. No foul brood. Also astronomical telescope. BRADLEY, Stretton, Yockleton, Salop. H 16

IT will PAY all BEE-KEEPERS in Scotland, Ireland, Wales, Devonshire, Somersetshire, and Cornwall, to send to ABBOTT BROTHERS, Merchants Quay, Dublin. H 15

ABBOTT'S PATENT FRAMES, improved pattern, interchangeable with W.B.C. ends, 2s. doz., 21s. gross. ABBOTT BROTHERS, Merchants Quay, Dublin. H 14

SWARMS DELIVERED before 20th May. 3½ lbs. '94 Queens, 13s. 6d., box gratis. Warranted healthy and from healthy district. LEONARD SMITH, Elstow, Bedford. H 3

GUARANTEED Healthy NATURAL SWARMS, 3½ to 4 lbs., 12s. 6d. Packing included. Expected early in June. Orders in rotation. CHAS. WHITING, Valley Apiary, Hundon, Clare, Suffolk. H 4

Prepaid Advertisements *(Continued)*

CARNIOLANS.—Four Strong STOCKS, near swarming, 11 and 12 Frames of Brood, and Stores. Guaranteed Healthy Queens, July, 1894, 30s. and 35s. each. 135, Ramsden-road, Balham, S.W. H 6

HONEY, superior sample, WHITE CLOVER, in 1 lb. screw-top glass jars, 8s. 9d. per doz., carriage paid on 6 doz. Sample jar 1s. post free. GEO. SUMMERS, Sandbeck-park, Rotherham. H 12

A. & J. WARREN, Wholesale Druggists, 23 and 24, Redcliff-street, Bristol, are Buyers of English Beeswax and English Honey. No offers made by the Firm. Seller to state net price and send samples. G 96

GIVING UP EXHIBITING. — FOR SALE, a Pyramidal SHOW STAND and CASE complete; the same with which I have taken many first prizes; also Unicomb Observatory Hive, and quantity Metal Section-Cases. Particulars, H. WOOD, Paradise, Lichfield. G 98

FOR SALE, Three Bar-Framed HIVES; a small Slinger; crates of sections; feeding bottles, &c. All from Abbott's. Also six straw skeps with bell-glass supers. What offers. S. C. 17, Park-road, Southborough, Tunbridge Wells. H 5

COMB FOUNDATION, Abbott's celebrated flat-bottom or natural base, 1s. 8d. per lb., super 2s., with addition of 1s. with each order for packing, booking, &c. ABBOTT BROTHERS, Merchants Quay, Dublin. Sample parcel 2s. post free. H 13

CASH MARKET for any quantity of HONEY COMB in SECTIONS, EXTRACTED HONEY and WAX. Packages for Sections lent free. State lowest price. Address, H., *Bee Journal* Office, 17, King William-street, Strand, London.

ALL who want HIVES, FRAMES, FEEDERS, and SUPER CLEARERS, &c. should send to J. TREBBLE one of the oldest establishments in England; hundreds of prizes and testimonials from all parts. Send two stamps for catalogue. J. TREBBLE, Romansleigh, South Molton. H 10

WELLS HIVE, nearly new. Full standard size. Non-twisting division board. Made well, looks well, and warranted to give satisfaction. Exchange good field or opera glass, subject to approval. Apply to DAVID CAMPBELL, Invergarry, Inverness-shire, N.B. H 2

TO BEE-KEEPERS AND SECRETARIES OF COUNTY ASSOCIATIONS.

GEO. J. BULLER, Triangle, Hitchin, Herts
(Many years Foreman to Mr. T. B. Blow),
Is prepared to undertake the management of Bees and general expert work, by the day or season.
For terms, apply as above.
(DEALER IN BEE-KEEPING APPLIANCES.)

J. HUNTER, late Hon. Sec. of the British Bee-Keepers Association.

A Manual of Bee-Keeping.

Containing Practical Information for Rational and Profitable Methods of Bee Management. Full instructions on Stimulative Feeding, Lignirianising and Queen-raising, with descriptions of the American Comb Foundation, Sectional Supers, and the best Hives and Apiarian Appliances on all systems. With Illustrations. Fourth Edition. Crown 8vo. 3s. 6d.
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PURE ITALIAN QUEENS

From LUCIO PAGLIA

ROYAL BEE ESTABLISHMENT.

7/- each, six for 39/-
CASH WITH ORDER.

J. S. GREENHILL,
80, GRAHAM ROAD, WIMBLEDON.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

DEPUTATION TO THE PRESIDENT OF THE BOARD OF AGRICULTURE.

(*Concluded from page* 195.)

Mr. Gardner continued as follows :—

In the third place, I would venture to ask you to consider whether an honest and careful bee-keeper would be able to recognise and notify the appearance of disease in his hives before it had reached a stage of infectivity? That you will see for yourselves is an important point: the earlier the notification we get of a disease in a hive, the sooner and more efficaciously should we be able to prevent the disease spreading throughout the length and breadth of the country. If the bee-keeper cannot notify the appearance of the disease, would not the work of extirpation be of a highly difficult, if not of an impossible character? I hope you will understand that in putting these very practical questions before you it is not in any way because I do not wish to see legislation such as you desire passed, but because I think it necessary that we should not hastily embark in this matter without proper consideration.

In the fourth place, we come to a very large and somewhat difficult subject connected with the question, which I hope we shall be able amongst us to answer, so as to enable us to arrive at a satisfactory conclusion. If a compulsory report has been made to the local authorities, I would ask you to tell me as scientific bee-keepers, conversant with the subject, what expert assistance would be necessary for those local authorities to avail themselves of in order to test the accuracy of the report? Without wishing to throw any reflection on the honesty of the bee-keepers in general, it is quite possible to imagine that there might be a man who would be very anxious to get compensation for the loss of his hive without his bees being ill at all. Therefore it would be necessary for the local authority or the public department who had to administer the funds to have expert assistance to show whether a man was making an honest report, or merely trying to help himself from the public funds. Then, again, I would ask, what expert assistance would be necessary to support any proceedings that might have to be taken against recalcitrant bee-keepers who did not agree with the proposition that they were to report at once in order to set in motion the local authority or the public department with a view to stamping out the disease which we all desire to see stamped out? Then I think you will see that the financial difficulty to a certain extent comes in, because if it is necessary to have a staff of inspectors available for service such as is required all over the country, or if it is necessary to pay fees, such as a minimum of two guineas a day for a man to visit hives—I mean a specially qualified expert—I am inclined to think that the expense of stamping out the disease would be out of all proportion to the benefits which would be secured by so doing. Then, again, I do not put this subject forward as being in any way final, or settling the question. Far from it. A mode should be found which would be at once cheap, and which should balance, as it were, the expenses, if any, of stamping out the disease with the profit to be secured, and the capital involved. To give you a homely simile, you can get a steam-hammer to crack an egg, but you would hardly buy a steam-hammer in order to crack eggs. Therefore, you will see that the machinery necessary to stamp out disease must be in some way balanced by the capital involved and the advantages we should secure. Now, such inspectors as I have pointed out and such expert assistance, would seem to me to be almost an absolute necessity if Imperial funds were involved, and if a central authority was invoked to take the matter up. It is possible, and I think it probable, that these experts would be demanded and required if the local authorities of large areas such as County Councils were empowered to take up this matter. It has occurred to me—and I do not for a moment put it forward as anything more than a suggestion—to ask you to consider whether it would not be better to place a matter such as this in the hands of the smaller local authorities, such as the Village or District Councils. Would not such an undertaking be well within the scope of the functions of these newly-constituted authorities—peculiarly within the scope of their functions? And would not the more easily-worked dimensions of the smaller areas tend to cheapen the methods, and make it possible to set up machinery that would be able to deal with the subject with some regard to the amount involved and the profit to be secured? I am inclined to think—though I do not say that I have finally arrived at that conclusion—that these would be the authorities to deal with such a subject, and that the task is very appropriate to their powers at the present moment. Then we come to the question of expert assistance. I was very glad to hear Mr. Cooke, in the interesting speech he made, refer to the existence in every village of some one, I think he said, who was almost an expert on this subject.

Mr. Radcliffe Cooke: Where the Bee-keepers' Association has members.

Mr. Herbert Gardner: Quite so. I was glad to hear him make that reference, because I think that if that be true—if it is confirmed by the Bee-keepers' Association—I think I see light on this question. Now, the matter

of expert assistance is, no doubt, one of great importance with regard to economy. It is necessary that you should have this expert assistance, but if the experts are to be paid by fees, we are again met by a difficulty, and we must ask the question, "What will be the expense of the machinery compared with the nterests involved?" Now, would it be impossible for the Bee-keepers' Association or any of its affiliated societies to have, as Mr. Cowan has pointed out, in each district certificated persons to supply voluntarily, or for a small sum, the expert assistance the local authorities would most undoubtedly require in this matter? I do not think that would be impossible, so far as I am advised; and if it could be done, we should have taken a very long step in the direction of the action you gentlemen are here this morning to advocate. There is only one more point I should like to ask your attention to, and this, again, is closely connected with the question of expert assistance. It is with regard to what compensation should be paid for the hives that are destroyed. I believe the Bee-keepers' Association have recommended that something like 10s. per stock should be paid. But what I want to ask you is, should that be paid in all instances? Is the sum too great or too small? I should like to know—and the local authorities who undertake this matter must undoubtedly know—on what basis and by whom is the precise amount to be settled and the amount which is to be paid in compensation? Now I have endeavoured, and at some length I am afraid, to put before you the various points that have occurred to me. I will not call them difficulties, as I have said before, I call them points for settlement. I do not see any reason for discouragement in the matter, and what seems to me the best way of arriving at a settlement is for the Bee-keepers' Association to appoint a small committee—a committee of two or three—who could confer with the officers of my department in order to arrive at some satisfactory and speedy settlement of the difficulty. If the Bee-keepers' Association is prepared to do that, I am sure the officers of my department, and I myself—for I take a personal interest in this matter—will be glad to assist you, and we could arrive at some alteration of the circumstances surrounding the industry of bee-keeping by means of legislation which would pass without confusion in the House of Commons. I am anxious to encourage in every way I can an industry of this kind which affects so many of the poorer classes in the country, and one which I am given to understand may be extended very largely. I trust that the efforts of the committee you may appoint and of the officers of my department may tend to the satisfactory solution of the problems placed before them.

Colonel Lockwood, M.P., said, I feel certain, sir, that your suggestion as to the power to be exercised by the Parish and District Councils is a step in the right direction if you and your department would consider the possibility of arming those authorities with certain powers.

Mr. Herbert Gardner: Oh, certainly!

Colonel Lockwood: Then there is another important point you alluded to, and that was the question of public opinion. There is no doubt that we have, as bee-keepers—for I have kept bees myself—endeavoured to collect the opinion, so far as is possible, of those interested in apiculture, but it must be clear to you that it would be impossible for us, however much trouble we took in the matter, to bind ourselves that we could represent, even twenty years hence, the authority and consensus of opinion of all bee-keepers throughout the kingdom. When a bill was brought forward there might be opposition, not from us who are interested, but from other persons outside. I am certain the Bee-keepers' Association will do its best to collect individual opinions.

Sir John Gorst: I am asked to thank you, Mr. Gardner, for having received the deputation and for your extremely sympathetic and practical speech. The deputation understand that you do not wish to have the questions you put to them answered on the spot, but I am asked to say that they think they can give satisfactory replies to all the inquiries you have made. They will, of course, appoint a small committee to confer with you and the officers of your department, and endeavour to satisfy you on the important points which you say should be settled and decided before anything like legislation can be thought of. The association and the cottagers and the bee-keeping industry at large throughout the country are very much obliged to you for the manner in which you have received their representatives.

The deputation then withdrew.

Judging from the many hundreds of press-cuttings we have received during the past week referring to the proceedings reported above, the amount of publicity given to the subject must be something enormous, and the interest just now taken in bee-keeping will be correspondingly large. This is, so far, very satisfactory, but we fear that not even a moderately correct notion of what took place on the occasion referred to can be gathered from the press reports before us. Under the circumstances, therefore—and bearing in mind the extreme importance of placing on permanent record a full and reliable account of the proceedings connected with the deputation—we invite the special attention of our readers to the report begun on page 191 of our last week's issue, and concluded above.

The speeches of the Right Hon. Sir John Gorst, of the Chairman of the B.B.K.A., and the reply of the President of the Board of Agriculture are therein reported *verbatim*, while those of the remaining speakers are given

at sufficient length to include the salient points of each.

Our object in emphasising the importance of this is twofold : First, we would point out the advantages accruing from a full and accurate knowledge of the facts which will enable interested readers—and we may take it that all bee-keepers are interested readers—to set right misleading statements regarding the industry too often appearing in the local press in various parts of the kingdom. A striking example of this is shown in the press-cuttings to which reference has been made, some dozens of which report the Chairman of the B.B.K.A. as having stated that "there are 2,000 bee-keepers in Great Britain." Now, what Mr. Cowan did state was this : "There must," he said, "be about 52,000 bee-keepers in England and Wales." Thus, our would-be good friends gave just one twenty-sixth of the correct number, and left out Scotland and Ireland altogether !

In the second place, the momentous importance to bee-keepers of the issues at stake render it absolutely necessary for them to have in their possession the means of setting straight such unreliable reports as we have quoted, and enabling them, as occasion offers, to direct public opinion aright. Just imagine the aid of a Government department being invoked, and compulsory powers sought for by Act of Parliament, to protect an industry in which 2,000 persons only in the whole kingdom are more or less interested ! Why, such a proposal would be scouted as absurd and unworthy of a moment's consideration. We are, therefore, glad that, at least among readers of the journals exclusively devoted to the interests of British honey-producers, there will be no uncertainty as to what took place, or what was said, on the occasion referred to ; so that a careful perusal of our pages will put readers in possession of the facts we desire to have widely known among the craft.

So far as the several "points" which, as Mr. Gardner said, require settlement, we do not think they present any insurmountable difficulty. Anyway, we hope they are in fairly safe hands for being dealt with on our side when the occasion arrives for discussing them. Judging by the very sympathetic reply made to the deputation, a good case has been made out for Government assistance in some form, and it remains for us to show that it is practical, and capable of being worked to the substantial advantage of the agricultural labouring classes and to a deserving portion of those who dwell in rural districts.

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on 7th inst. Present : Mr. Read (in the chair), Dr. Traill, Mr. Govan, Mr. O'Bryen, and Mr. Chenevix (hon. sec., 15, Morehampton-road, Dublin). It was decided to make arrangements for lectures and examination for experts' certificates in connection with the Strabane shows on July 30 and 31.

Mr. Chenevix reported having given notice to members that they can now obtain the *Bee-Keepers' Record* for an extra payment to the association of 1s. a year (the ordinary annual subscription to the *Record* being 2s. 6d.). Members can also now procure Willesden paper (an excellent waterproof covering for hives) on specially favourable terms from Messrs. Edmondson Bros., 10, Dame-street, Dublin.

HONEY SHOW AT HALIFAX.

YORKSHIRE AGRICULTURAL SOCIETY.

In accordance with their custom, the Yorkshire Agricultural Society offer some valuable prizes for bees, appliances, and honey at their annual exhibition at Halifax on August 7, 8, and 9 next. There are six classes in all, those for "collection of appliances" and for "best display of honey" having prizes of £3, £2, and £1 for three best exhibits in each class. The other classes have prizes of £1 and 10s. for best two exhibits in each. Entries close June 29. See "Shows to Come."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2075.] Referring to the proceedings reported on pp. 191 to 195 last week, I do not think the County Council grants to the various County Bee Associations could be turned into a more useful channel, or put to a greater educational work than educating the apiculturist how to keep his bees in health and vigour. The present channels of the grant often benefit only the few individuals who form the classes receiving instructiou, and thus the individual benefits more than the community. The apiculturist, however, will not only be benefited, but in view of the fact of the busy bee filling so important a place in the economy

of nature in most rural callings connected with the culture of land—the community reaps a still greater benefit, the owner of the bees a lesser, *i.e.*, the honey. I contend that the keepers of bees in a parish or district are the benefactors of all their neighbours, as the visits of the industrious insects are absolutely necessary to the vital interests of nearly all branches of our food production; every plant that contains honey in the nectaries of its blossom requires the visit of an insect to fertilise that blossom to produce fruit; this fact has been demonstrated over and over again.

The very fact that honey (or nectar) is in the bloom proves conclusively that the insect is required for its fertilisation, otherwise the beneficent Creator would not have placed it there, and where shall we go for the insect if our busy bee is doomed to practical extinction by disease? The prime necessity for the cultivation of bees in every rural parish, is a factor that should weigh with the Board of Agriculture. The advanced civilisation of the country precludes the possibility of bees existing in sufficient numbers in hollow trees, dilapidated roofs of houses, or even in church towers, to insure a crop for either the farmer or fruit-grower, and when our "Grand Old Man," Mr. Gladstone, some few years ago commended to farmers the advisability of growing fruit and making it into jam, he would have done well to have added—"and keep bees to fertilise the blossoms and secure a crop of fruit."

And now a line on the method of "curing foul brood." I have during the past year referred to what I call "the McEvoy method," and to "The Rational Treatment of Foul Brood," by Dr. Howard, of Texas, U.S.A. This writer started out to refute McEvoy's method, but Balaam-like he praised it at the end of his researches as the only "cure" to be depended on. The Foul Brood Act of Ontario passed in 1890. Mr. McEvoy was then appointed F.B. Inspector, and he still holds the office. Mr. Allen Pringle, then President of the Ontario Bee-keepers' Association, in a letter to *Gleanings*, September, 1890, says:—"Foul brood can be cured, and cured every time, by a simple hygienic process, and without the aid of chemist, druggist, or the drug doctor. This is a broad and radical statement, but I make it deliberately and advisedly." The method by which foul brood is cured in Canada is the McEvoy method, and an eye-witness recounts the effective work done by the inspector in *Gleanings*, vol. 18, October, 1890. Then, five years afterwards, Mr. E. R. Root (now editor of *Gleanings*), April 15, 1895, says:—"Foul brood inspector Wm. McEvoy has done some pretty thorough work in eradicating foul brood in Ontario. If he continues in office (as we hope he will) the disease will soon be a thing of the past in Canada."

In face of these facts, ought we in Great Britain to still pin our faith to the antiseptic treatment? I say no. Let us rather cast medicine to the dogs, and do as our brethren in Canada and America have done and are doing—Make a radical cure straight off! All we want is the power, and the inspectors to carry out the power, for the benefit of all.

The Act will require notification of the disease in an apiary. This will be a rather difficult matter to deal with, especially among the cottager and mechanic classes, but I have no doubt that the public papers will note the passing of the Act, and the powers conferred to deal with the subject, and that every one who does not understand the matter themselves will call in their better informed neighbour, such as the village schoolmaster or the minister of the parish. One or other of these would probably be bee-keepers. Failing that, the county or district Association would send their expert to render help, or possibly advanced bee-keepers in certain districts might be appointed deputy inspectors to take action in the matter and report to headquarters. In closing, I admit there are difficulties in our path, but no very great ones; a few will suffer without doubt, and that is why I have advocated compensation where the inspectors are, perforce, obliged to burn the stocks and their belongings, as in cottagers' straw keps, for instance, one must know how ill able they are to suffer loss *pro bono publico*, and through no fault of their own. Shall I go too far if I say that the disease may have been introduced by some more opulent bee-keeper who, not satisfied with the healthy acclimatised bee of our country, sent to foreign climes for an improved(?) strain, and with them introduced the disease from which the poor cottager is now suffering loss. Cases of this kind should receive compensation, but in compensating let it be a new start in bee-keeping, rather than a few shillings in cash which would be spent on other things than bees for a restart.—W. Woodley, *Beedon, Newbury.*

HEATHER HONEY IN APRIL.

[2076] Referring to "W. B.'s" note in your issue of May 2 (page 177), I may say that, though I am living in Devon, which ought to be much earlier than Suffolk, the heather with which I am surrounded is brown as far as eye can reach, all brown, and my bees are clustering on the mazards in full bloom and on the laurels, but I have seen none on the heather, and should certainly think there is no honey to be got from it.—Fred. H. Oldfield, *The Warren, Woodbury, Devon, May* 13.

USING NAPHTHALINE.

[2077.] Referring to your reply to "T. J.," Bristol, on page 199 of last week's Journal, I believe I am the expert alluded to, and as

chilled brood is mentioned, I think your correspondent must have misunderstood me. I do not think it was a case of chilled brood at all, but as the naphthaline was broken up into bits, and too large a quantity used—besides being placed right under the brood nest—in my humble opinion it caused asphyxiation of the brood. I find it a common practice for bee-keepers who have foul brood to use a deal too much naphthaline, with the danger of getting the brood suffocated by its fumes.—J. MARTIN, *Bedminster, May* 18.

TECHNICAL INSTRUCTION IN BEE-KEEPING,

AND THE STAFFORDSHIRE B.K.A.

[2078.] Your correspondent "Apiarius Invenilis," in your issue of April 25 (page 166), complains of not having seen a report from the county of Staffordshire in the columns of the B.B.J. since he first became a reader of the paper. He is evidently a novice, or else reads his B.J. carelessly, for in your issue of March 7 of the present year nearly a column is devoted to the annual report of the S.B.K.A. If "Apiarius Invenilis" will read this up, and also the county paper of February 16, he may gain a little knowledge of the work our County Council is doing, and also of the strides bee-keeping has made in the county during the past three years. He also complains of the lectures being too few. As he does not give his name or address, I can offer no explanation why, beyond the fact that no application for lectures, demonstrations, or visits to bee-keepers in any part of the county has been neglected. Further than this, the County Council have sent into every parish of the county of Stafford circulars announcing the names and subjects of the lectures, and teachers of the various branches which come under the head of technical instruction. Had your correspondent applied to the Director of Technical Instruction or to myself, his application would at once have received attention, and instead of rushing into print with an unwarrantable complaint, he might have applied to the secretary of the S.B.K.A., or have made inquiries for the expert; but he does not appear to be sufficiently interested in bee-keeping to belong to the county association, and when he says Staffordshire is a large county and well adapted for bee-keeping, he has made a good guess. And if he desires to know what has been done to promote bee-keeping, I think the report to which I have referred shows it fairly well. If he will communicate with me, I shall have great pleasure in arranging for lectures or demonstrations in the district he appears interested in.—ROBERT COCK, Expert to S.B.K.A., *Stafford.*

TECHNICAL INSTRUCTION IN EAST SUSSEX.

[2079.] I am glad to inform you that the East Sussex County Council has also sanctioned technical instruction in bee-keeping. Applications for lectures should at once be made to Mr. Edwin Young, County Hall, Lewes.—C. BRERETON, *Pulborough, May* 18.

NINE EGGS IN ONE CELL.

[2080.] I noticed in your issue of May 9 [1268], p. 187, a correspondent mentioned finding as many as nine eggs in one cell. I had a similar stock composed of queenless bees united to a stock which came through the winter very weak, owing first to flights when snow was on the ground, and afterwards owing to the entrance slide getting closed by accident which caused the bees to be thinned off a great deal by death. I also found my other stocks robbing them, so I smeared paraffin on the hive front and joined the bees next day to the queenless lot referred to. The latter had not enough bees to cover one frame, though the queen was a fine large one of last year. After reading of "nine eggs in one cell" (on page 187), it occurred to me to examine my similar stock, and was surprised to find many of the cells around a patch of brood containing from two to eight eggs in each. I could not find any cell with only one single egg in it. Many cells had five, six, and seven eggs in them, and I saw two, three, and four small grubs in some cells. I suppose the hot weather we had about the 10th inst. caused the fruit-bloom to yield honey well, and stimulated the queen to lay, as she had but few bees with her to cover the brood. She was cramped for cell room. I spread the brood a little, thinking it best to go slowly, but owing to cold weather lately, have not examined since. Do you think it possible for more than one bee to hatch out in one cell?—W. H. L., *Isle Hill, May* 20.

[It may be taken as an established fact that two perfect bees cannot hatch out from one cell.—EDS.]

AN APPEAL

ON BEHALF OF THE WIDOW AND FAMILY OF THE LATE THOMAS BADCOCK.

Amount received or promised ...	£5	5	0
The following sums have since been received :—			
Hawley Bowler	0	5	0
T. W. J.	0	2	6
J. R.	0	2	6
Rev. R. T. Shea	0	2	6

TECHNICAL INSTRUCTION IN BEE-KEEPING.

The first of a series of interesting practical lessons in bee-keeping was given by Mr. E. H. Smith (science master) on the Christ Church experimental plots, Warminster, on Tuesday evening, the 23rd ult., to the members of the bee-keeping class which has been held in connection with the Technical Education Committee's work during the past winter. The object of the lesson was to demonstrate the advantage of scientific manipulation of bees. Mr. Smith transferred six bar-frames of comb and bees from an old box used as a makeshift during the winter to a properly-constructed hive, and explained the advantages of stimulating bees to breeding by the judicious use of thin syrup, some of which was placed in a feeder on the top of the frames for the purpose of making the bees settle quietly in their new homes. He also pointed out the risk bee-keepers ran from the ravages of mice through badly-constructed temporary hives. He stated that he had caught three mice in this box, and exhibited the injured comb and dead bees. The teacher next explained the different kinds of bees in a hive, and the different cells in which they were reared. He also pointed out the queen bee, the pollen or bee bread upon which the young bees were fed, and the eggs and larvæ in various stages of development. In the course of the lesson Mr. Smith strongly recommended the use of whole sheets of comb foundation, the advantage of which was to produce a maximum number of worker bees with very few drones. The hives in use were constructed by Mr. Smith, and each member of the class during the winter has made a hive for his own use. The lessons promise to be most interesting and should be of the greatest value to all concerned in bee-keeping.

MANCHESTER AND DISTRICT B.K.A.

The above association held their first annual meeting, on April 29, at 52, Thomas-street, Manchester, Mr. W. Knowles in the chair. There was a large attendance of delegates from suburban districts. According to the report presented by the committee, the district meetings of the association had devoted considerable time to showing the great and important service which the bee-keeping fraternity were constantly rendering to the farmer, the fruit-grower, and the gardener. The meetings had fully demonstrated the possibility of successful bee-keeping within a reasonable radius of the city. In addition to the holding of meetings, the committee felt it necessary to submit the views of the association to persons of influence. By this method they hoped to have laid the foundation of one of the most successful bee-keepers' associations in England. They had entered into correspondence with members of Parliament and members of the committees of horticultural and agricultural shows, besides making arrangements with the Royal Botanical Gardens and the Worsley Horticultural and Agricultural Show to have exhibitions this season of bees and honey, for which medals and certificates would be given. Permission had also been obtained to place an observatory hive in the Peel Park Museum. The chairman said that it was their object to prove that the keeping of bees was something more than a pastime, it was a profitable and instructive occupation. For this purpose they meant to institute lectures, and hoped to have their share of the funds provided for the purpose by the County Council. Mrs. Vernon K. Armitage was elected president of the Association. The Dean of Manchester, Sir Humphrey de Trafford, Sir Henry Roscoe, M.P., Mr. Lees-Knowles, M.P., Mr. J. W. Maclure, M.P., Mr. W. H. Holland, M.P., Messrs. B. Armitage, and B. Mullen were elected vice-presidents. The Committee of Management was constituted as follows:—Messrs. E. D. Weeks, W. Knowles, A. Stonex, J. Ragdale, P. J. Turner, James Seel, George Royle, and Thomas Howarth; and Mr. E. M'Nally, secretary. The following resolution was subsequently carried:—"That this meeting heartily endorses the action of the British Bee-keepers' Association in bringing forward the question of foul brood and kindred bee-keeping matters before the Board of Agriculture, and recommends that those honorary vice-presidents of our Association who are members of Parliament be earnestly requested to advocate our wishes in this matter."—(*Communicated.*)

[Referring to the above report, and to some remarks of the correspondent who forwards it, we would observe that affiliation with the British Bee-keepers' Association can only be obtained on the fulfilment of the usual conditions, including the publication of a balance-sheet at the annual meeting. We would observe that no mention is made of this latter item at the meeting reported as having taken place on the 1st inst.—EDS.]

Echoes from the Hives.

Reigate, Surrey, May 17.—In reading this week's JOURNAL, the "Echo" from Midlothian, May 3, agrees with this district, viz.—"Stocks were in as good condition on April 1, 1894, as there were on May 1 this year," that is, they are now a full month later, and as blossoms producing nectar are also quite a month behind 1894, it simply means waiting so much longer for our surplus honey. The last two days have been cold and windy—not bee weather—and little work has been done. From the 10th to 14th inst. a fair quantity of honey was stored. I have six hives of bees on fourteen to twenty standard frames, which I consider good for this season.—WM. HINSON.

[Any reliable opinion on the subject referred to will be welcome.—EDS.]

METEOROLOGICAL SUMMARY.

APRIL, 1895.

Locality, Stoke Prior, Worcestershire.
Height above sea-level, 225 ft.
Rainfall, 1·46 in.
Greatest fall in 24 hours, 0·39 in. on the 25th.
Rain fell on 13 days.
Max. shade temp., 60° on 9th, 10th, 21st, 23rd and 30th.
Min. temp., 24° on 4th and 12th.
Max. shade temp. 9 a.m., 53° on 20th, 28th, and 29th.
Min. temp. at 9 a.m., 34° on 4th.
Frosty nights, 7.
Max. barometer, 30·2° on 12th.
Min. barometer, 29·18° on 7th.

Not a good month on the whole for bees. Notwithstanding the abundance of gooseberry blossom, bees were not able to work on it to advantage owing to cold wet days. Stocks not so forward as in corresponding period of last year, but if May is genial, doubtless they will soon "pull up." Last May stocks required to be fed.

Some very cold winds from the N.E.

Temperature and barometer high and steady at close of month.

PERCY LEIGH, *Beemount.*

Queries and Replies.

[1277.] *Black Robber Bees.*—Kindly inform me if enclosed insect is a species of wild bee. I have twelve stocks, and these very *black* bees attempt to enter all of them, and are always thrown out. There are large numbers of them dead in front of many hives. It seems strange that they should attempt to rob now that there is any quantity of honey about. —JOHN C. ROBERTS, *Maidstone, May* 14.

REPLY.—The insect is a genuine hive bee, *Apis mellifica;* one of that singular class which may be termed professional robber bees. They are easily distinguished by the loss of the natural pubescence (or hairiness) of the insect in its normal state. This gives them the shiny black appearance presented, the hairs being all rubbed off the body in the constant pulling and dragging about they receive from the bees of such hives as they plunder. Poor little wretches! they may be said to illustrate the truth that "the way of transgressors is hard," for they are literally pulled or tugged to death. They never sting their opponents, but only show their courage by persistent attempts to steal, and then escape from the clutches of the defending bees, until they at last get the final sting which ends their career. A case of "moral perversity" which nothing will cure.

[1278.] *Hiving my First Swarm.*—In October last I bought a few pounds of bees, and by way of hiving (not having any previous experience) I turned the box containing them upside down over the top bars of my frame-hive. I expected the bees to fall down into the hive, but was disappointed; they didn't fall down, and, in fact, they have remained in the box there throughout the winter, and are there still. I fed them through some holes in the top of the box. I should like to know how to get them down on to the frames? They have nearly filled the box with comb, and are breeding rapidly, if I may judge by the rapid pollen-gathering and the number of small bees. —C. H. COOMBE, *Chiswick.*

REPLY.—The box may be left where it now is until the present honey season is over, by which time the bees will have taken possession of the lower hive, and be using the upper box as a storehouse for the honey gathered. As such it may be appropriated as surplus honey at the close of the harvest.

[1279.] *Galvanised Iron Vessels for holding Bee Syrup.*—Kindly inform me whether galvanised iron vessels are detrimental to bee-syrup, as I am desirous of making a large quantity of the latter, and storing same in said vessels, which are convenient not only for their size, but also that they have taps fitted to them?—A. POND, *S. Woodford, May* 14.

REPLY.—Since tin vessels can be more readily fitted with taps than iron ones, there is no reason why galvanised iron should be used. The vinegar usually added to bee-syrup would, no doubt, act on the zinc used for galvanising, and the oxide produced is no doubt poisonous. A case in point appeared in our pages about a year ago, where honey stored in a galvanised iron vessel, and afterwards given to bees as food, is stated to have caused the death of the larvæ in the cells.

[1280.] *Dealing with Nuclei.*—I wish to form a nucleus colony or two, and I understand that such colonies should never be left without eggs and brood till the young queen is mated, or failure will follow. As I am now from home during the week, and cannot, therefore, supply them with eggs and young brood, I have thought of the following plan—that is, placing a piece of excluder zinc over the entrances, thereby keeping the young queen in hive, and at the end of the week placing a frame of eggs, &c., before taking zinc away. 1. Do you think this will answer? 2. What would be the result if I did so.—ELY, *Newnham, May* 18.

REPLY.—1. Unsealed brood is given to a nucleus hive to attach the bees to it and prevent them leaving along with the young queen when she takes her marital flight. Full particulars as to dealing with nuclei appeared in our columns on p. 313 of B.J. for August 9 last. On no account must any attempt be made to control young queens as stated. 2. Failure!

Bee Shows to Come.

June 12, 13.—Essex Agricultural Society's Show at Southend. Entries close May 27. Schedules from F. H. Meggy, Hon. Sec. Essex B.K.A., Chelmsford.

June 24 to 28.—Royal Agricultural Society's Show at Darlington. Entries closed. Secretary, J. Huckle, King's Langley, Herts.

July 19 and 20.—Bristol District Beekeepers' Association. Annual Show at Knowle. Entries close July 13. Schedules from Miss Dawe, Hon. Sec., Long Ashton, Bristol.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries close July 1. Schedules from Jas. Birch, Sec., 3, Brunswick-street, Liverpool.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries close June 29. Schedules from Marshall Stephenson, Sec., York.

August 6 and 7.—Staffs. B.K.A., at West Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances. Schedules, when ready, from Harold Twentyman, Wolverhampton.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

*** *We are still compelled to hold over our report of the Quarterly Conversazione of the B.B.K.A. which will appear in our next.*

A. R. (Harrogate).—*Dealing with Foul Brood.* With nine combs of brood in similar condition to one sent, and six healthy hives near at hand, we should not lose an hour in removing all combs and frames from the hive referred to and burning the lot! If, as stated, the hive is now full of bees, the disease must have been recently contracted, for there is foul brood enough in sample sent to prove it a bad case, and it would need to be a very fine stock, and a very good queen, to cause us to hold our hand—to save further risk—from destroying the bees as well. However, if there be an excuse for trying to save the bees, it has force now. The season is suitable, and if the queen and bees are worth the effort—not forgotting the unavoidable risk to the healthy stocks—get them off the diseased combs into an old skep or box which may be afterwards burnt. Keep them in confinement and without food for about forty to forty-eight hours. Then return them to the hive, the latter having in the meantime been thoroughly disinfected, and furnished with new frames fitted with full sheets of foundation. All quilts, &c., should be boiled for ten minutes before using again. Feed the bees with medicated syrup while combs are being drawn out.

C. D. G. (Cambs).—*Moving Bees to Clover.*—1. If the field of clover is large (eight or ten acres at least), the clover in good bloom and weather favourable, it might pay well to move a half dozen stocks two miles to it, not otherwise. 2. The hives would require careful preparation for the journey, or disaster would most likely ensue. An experienced hand ought to see to the packing to make transit safe. 3. Yes, the horse-chestnut sometimes yields well, but not a high-class honey.

New Chum (Tonbridge).—*Feeding in Bad Weather.*—Your swarm of the 9th inst. is among the earliest we know of this season. It is a good practice to keep strong stocks going by a little feeding in adverse weather at this season. Those now working in sections, however, should on no account have syrup given them. It makes no difference in honey results which way the combs hang with regard to the entrance. Don't neglect feeding your recent swarm.

B. Baldry (Forest Hill).—*Losing Swarms.*—Under normal conditions, the appearance of drones on the wing is a fair indication that swarming will not be long delayed, but we cannot pretend to say how soon the swarm will issue. Since you are compelled to be away from home, a swarm-catcher might be very useful in preventing loss of swarms. See Mr. Hole's advertisement on another page. Being entirely inexperienced, we do not advise trying your hand at artificial swarming just yet.

J. B. (Launceston). — *Making Artificial Swarms.*—We deem it to be so absolutely necessary for any one attempting such operations as making artificial swarms to have read some book on bee-management before starting, that we advise our correspondent to procure either the "Guide Book," price 1s. 8d., or the handbook "Modern Bee-keeping," price 7d., both post free. Either of these works give fully detailed instructions how to proceed, which it is quite impossible for us to afford space for in this column.

Mark Dobell (Marden).—*Native* v. *Foreign Bees.*—The experience of bee-keepers in this line is very varied. Some consider foreign bees best, while others regard them as very much inferior to our own for this country. One thing we advise—viz., don't go in for new varieties, except on a small scale, and judge for yourself by results.

ROBT. S. ROUTH.—As stated in foot-note on p. 168—and in view of the space already taken up in ventilating the views of our correspondent—we think the discussion may now be considered closed.

A YOUNG BEGINNER (Stapenhill).—The date of annual show of the D.B.K.A. will be found in "Shows to Come," p. 208.

A DILIGENT BEE-KEEPER (Castlederg).—Comb is affected with foul brood. Names should be sent (in confidence, of course) with all samples of comb.

E. EATWELL (Berks).—Very pleased to have your opinion that "the JOURNAL and 'Guide Book' are necessary to successful bee-keeping."

A. W. PING (Fife).—For description of insects forwarded, see reply to John T. H. Ward, page 199 of our last issue.

NEMO (Redhill).—*Preventing Second Swarms.*—1. Cutting out all queen-cells save the best one on the sixth day after issue of first swarm will, in most cases, prevent further swarming. 2. Regarding the peculiar smell noticed as coming from hive entrance, see reply to John Moonan, on page 198 of our last issue.

HOPEFUL (Glo'ster). — 1. When "honey abounds," as you say, there is no need to feed strong stocks to assist breeding. 2. For sending queens there are properly devised travelling boxes, which may be had from most appliance dealers. 3. In a moderate sized apiary, situated in a good district, we should work for honey rather than swarms, unless the bees were kept in skeps. 4. No, we would limit the quantity of drone-cells in each hive rather than have to cut out brood where drones are too numerous.

J. S. W. (Winsford).—The plan of dealing with top swarm will work out all right, but putting the skep after swarming above the top-bar of another frame-hive will not prevent the issue of a second swarm unless all queen-cells but one are removed after the top swarm has left.

GEO. NICHOLSON (Stockton-on-Tees). — We should unite the queenless bees to the other stock.

INQUIRER (Newmarket-on-Fergus).—1. There need be no fear of swarms from hives not having flying drones in them. 2. Plenty of drones and crowded skeps are strong indications of early swarms.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

PURE BLACK BEES, swarms, nuclei, queens, NOW READY. ALSFORD, Expert, Blandford. H 23

SWARMS, May and June, 12s. 6d. each, or 3s. 3d. lb. Rev. — JARVIS, Stonehouse, Gloucestershire. H 17

WANTED, Cylinder EXTRACTOR. Description and price. W. H. LEIGH, Ide Hill, Sevenoaks. H 28

Prepaid Advertisements (*Continued*)

ENGLISH and ITALIAN BEES FOR SALE. W. HILL, Scotlands, Cannock-road, Wolverhampton. H 22

12 STRONG BORAGE PLANTS sent to any address on receipt of six stamps to pay box and postage. R. ILLMAN, Nurseries, Strood, Rochester. H 30

FOUR STOCKS of BEES, five empty Standard Hives, Appliances. Foul brood unknown. List on application. F. CREWE, Oulton, Stone, Staffs. H 26

STRONG, Healthy, Natural SWARMS from united stocks, 1894 Queens. Price 15s. No foul brood in the district. J. WATTIE, Hinderton Hall, Neston, Cheshire H 27

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BREERETON, Pulborough, Sussex. 109

LACE PAPER for GLAZING SECTIONS. Three neat patterns, 100 strips, 22 inches long, 3d., post free, 500, 2s. 9d., post free. W. WOODLEY, Beedon, Newbury.

STRAW HIVES, best cane-bound, round or flat top, 1s. 3d. each, 12s. dozen. ABBOTT BROTHERS, Merchants Quay, Dublin. G 59

SPECIAL BEE VEILS, fine silk net, post free, 9d. each. ABBOTT BROTHERS, Merchants Quay, Dublin. G 60

BEES, Strong Healthy Swarms all '94 Queens, 10s. 6d. each. Swarm-boxes to be returned. ED. LONG, Cottenham, Cambs. H 11

SELLING OFF STOCKS and SWARMS. New and second-hand appliances. Show stands. Price low. No foul brood. Also astronomical telescope. BRADLEY, Stretton, Yockleton, Salop. H 16

BEES, Natural Swarms, 3½ to 4 lbs., 12s. 6d. each. Guaranteed healthy. Box and packing free. ALBERT TWINN, Apiary House, Ridgwell, Halstead, Essex.

WILL any BEEKEEPER who has bought appliances from the Reverend G. H. SAMSON, New Romney, kindly communicate particulars to Mrs. OLDHAM, Mersey House, Ashton-on-Mersey, Cheshire. H 24

FOR SALE, 220 SECTION CRATES (made specially to the order of a large Bee-keeper, who does not now require them). Take 21 1-lb. Sections 4¼ by 4¼ by 2, with glass at one side, movable shutter, tin dividers, complete. What offers for whole, or any number? Sample sent post free for 2s. 9d. J. IRONSIDE, 2, Penshurst-terrace, Belle Vue, West Hartlepool. H 21

T. BUDGEN, THE APIARY, THREE BRIDGES, Dealer in Bee-Keepers' Appliances. Apiaries established. Undertakes the management of Bees by contract or otherwise. H 20

THREE-FRAME (Standard) NUCLEI, Selected Bees, headed by 1894 Queens, strong, healthy; 10s. each on rail free; travelling box to be returned. WM. HINSON, Westholme, Reigate, Surrey. H 18

2 "LITTLE WONDER" HONEY EXTRACTORS, unused, but soiled; free on rail, 4s. each or 7s. the two. Exchange. WM. HINSON, Westholme, Reigate, Surrey. H 19

TWO BAR-FRAME HIVES, 4 Box-Hives with glass sides and divisional super suitable for Bee-house, 3 Super Boxes and covers for supering Straw Hives. Cost over £5; take £1, on rail. ERNEST DAVIS, Great Bookham, Surrey. H 29

Prepaid Advertisements *(Continued)*

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SWARMING SEASON, 1895.

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Manufacturer of Bee-Keeping Appliances,

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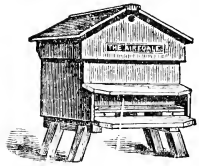

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Editorial, Notices, &c.

USEFUL HINTS.

So large a portion of our front page has, for some weeks past, been occupied with what may, not inappropriately, be termed the politics of bee-keeping, that there is some danger of the familiar heading with which this column begins dropping out of sight altogether. Indeed, so frequently have our intended "hints" been "omitted for want of space," that, had the control of the "w.p.b." been in other hands, we might, like the Irishman, have "tuk umbridge" at the treatment accorded to this particular column of the B.J. Even now, indeed, we have only permitted ourselves to step in—Paul Pry like—with a "hope I don't intrude" sort of apology, to say how heartily we shall welcome the advent of a quieter time for Editors and readers alike. A time when the hateful term "foul brood" will be as nearly banished from our pages as we can "ban" it. A time, too, when our "craft" will be sailing in smoother waters, and bee-keepers be enabled to work with something like confidence and security, as we think they assuredly will once the common enemy has been "scotched," if not killed, and the disastrous march of this bee-pest brought to an end.

No great evil, however, can be removed or even grappled without arousing more or less contentious feeling in some quarter, where so many individuals are concerned, and there is cause for congratulation in that the general opinion on the subject has been so nearly unanimous. We could have wished that our own more immediate task had been a little less irksome, so far as keeping out of print personalities and "faddist" views regarding legislation, the ventilation of which could do no good, and might, possibly, do much harm. So far as the task undertaken by the council of the B.B.K.A. has progressed, there is much cause for satisfaction. The question has not only been lifted into the region of practical politics, but has been considerably advanced toward the stage for being practically dealt with. Of the labour involved in securing even so much of official recognition as has already been gained for the bee-industry, only those who have borne the burden of it know much, but the result, as we have said, is eminently satisfactory.

All this has, of course, reference only to the *future* of the pursuit, and we turn with equal pleasure to the present, concluding with what we almost invariably begin with, viz., the

WEATHER.—It is now, and has been for ten or twelve days past, almost perfect bee-weather. A bit cool at night, but the heavy mist of each succeeding early morning has been the forerunner of a bright, warm day, and, in consequence, bees have been tremendously busy. Forage is everywhere abundant, with honey coming in fast; the immediate difficulty being the prevention of undesired swarms. The actual honey season has, however, still to begin in most places, white clover being only due for flowering a fortnight hence; so there is plenty of time ahead, and surplus-room may be given freely with the view of preventing swarming. Reports are to hand of swarms coming off fast, while here in Kent bees are doing so well that a fine season is certain if weather does not change. In Cornwall our senior Editor (before going abroad for a well-earned rest) has had to put additional storeys on his hives, so crowded are they with bees and so rapidly were the surplus-chambers already on being filled.

All is, therefore, as full of promise as well can be, and it seems as if '95 would be memorable for the craft in more ways than one.

BRITISH BEE-KEEPERS' ASSOCIATION.

QUARTERLY CONVERSAZIONE.

The quarterly conversazione was held at 32, Sackville-street, St. James's (the usual place of meeting, 105, Jermyn-street being unavoidably engaged), at 6 p.m. on the 9th inst.

Mr. E. D. Till presided, and was supported by the Hon. and Rev. Henry Bligh, Rev. W. E. Burkitt, Messrs. S. Atkin, Bevan, H. W. Brice, T. B. Blow, W. B. Carr, R. Green, J. S. Greenhill, J. M. Hooker, H. Jonas, G. H. Morris, N. Swain, and others.

The Chairman regretted that Mr. Cowan had been obliged to leave before the commencement of the proceedings. That gentleman had within the last few months been working very hard in connection with the foul-brood deputation which waited on the

Minister of Agriculture a day or two ago. It was surprising to know what an amount of labour was necessary in preparation of the material for presentation to the Minister. Mr. Cowan had been specially engaged for a long time in tabulating facts, and corresponding with Members of Parliament on the subject, and he had now gone to seek a little rest in Cornwall. He (the chairman) was also sorry that Mr. Blow had another engagement which took him away, because an account of his recent trip to the West Indian Islands relative to the importation of wax would have been interesting to the meeting. It appeared, according to what he had heard, there were very few countries from which superior and genuine bees-wax could be obtained—a very large proportion of that imported into this country being more or less adulterated. In view of the very low price at which some foundation is now sold it was difficult to know how it could be produced from genuine bees-wax. He thought it was a question whether the exhibition of home-produced wax at shows was sufficiently encouraged. Turning to the subject of the recent successful deputation, he hoped they might have the advantage of some practical suggestions from those present with regard to the questions put by Mr. Gardner. After some further remarks he invited comment on the matter.

Mr. Jonas explained that it was proposed to inflict penalties on those who knowingly withheld the information that their stocks were affected with foul brood.

Mr. Hooker added, and those who, when told that their bees were diseased, refused or neglected to have them destroyed.

On the question being asked whether inspectors would have power to inspect hives at any time—which was important seeing that public inspectors were not particular about the time of their visits nor the trouble they caused, it was stated that due notice would be given, and Mr. Jonas added that inspection would not take place at all unless invited by the bee-keeper himself or complaint had been lodged that foul brood existed in the neighbourhood.

A desultory conversation followed, bearing upon matters, some of which must necessarily take time for further consideration so far as working out details regarding inspection, destruction, compensation, &c., all of which questions were stated to have been, or were being, carefully considered by the committee appointed to deal with the matter.

Referring specially to the visits of inspectors, Mr. Hooker said he wished to emphasise the fact that it was not proposed to inspect except when foul brood was reported as existing in any apiary or district.

Mr. Jonas added that the process would be to notify the fact that certain hives were infected, and, if the information came from an authentic source, an inspector would be sent to examine the hives. He thought that every one who had the interests of bee-keeping at heart would notify the presence of the disease immediately.

The Rev. W. E. Burkitt knew bee-keepers who had had the disease among their stocks for three or four years, and refused to let any-one examine them.

Replying to a question regarding the expense involved in carrying out the Act, Mr. Hooker said that if a person refused to destroy his bees when compensation was offered stringent measures must be adopted. No great good could be done without expense. The Chairman also said that the proposed Bill would give the inspector discretion as to destroying the bees, which he would not do where remedies were practicable.

On an inquiry being put as to whether it was not certain that the origin of foul brood had never yet been discovered, Mr. Carr said what they had now to deal with was not the origin, but the effect of the disease, which was terribly infectious, and spread rapidly if unchecked.

Mr. Jonas and Mr. Carr further explained the *modus operandi* of the proposed Bill in the case of those bee-keepers whose hives were infected, and who failed to give notice of the same, thereby contravening the projected statute and incurring penalties. Notification should come preferably from the owner himself, or, failing that, somebody would give an intimation to the nearest constable, who in his turn would report to the proper authorities. Notice would then be given to the owner of the hive of the intended visit of the inspector.

The Chairman thought that not more than 5 per cent. of hives were diseased; therefore the inspection would not be anything like the formidable matter some few supposed.

Mr. Carr observed that they would rather conciliate than ask for penalties, and at the beginning would only deal with flagrant cases.

Mr. Bice said the mere passing of the Act would bring about a remarkable change, the possible visit of an inspector creating a good deterrent effect.

Mr. Hooker thought bee-keepers would themselves notify the disease, when found, for their own protection.

The Chairman was also of opinion that owners of hives would often be glad to have the question settled by an expert where there was any doubt, because the signs of the disease in its first stage were not unmistakable. He felt sure that only a small minority would be opposed to inspection.

Mr. Carr said they would endeavour to guard against the Act being used as a means of oppression. Every one who made a complaint against another must show solid grounds for the same.

Mr. Bevan wished to know what was the

object of employing experts by the affiliated associations, if not to detect disease? The county associations spent a large amount of money on that business, and he was afraid very little information was imparted to bee-keepers. Those were the men who should give advice.

Mr. Jonas thought it would be unwise for the association's experts to become Government experts, as it would have the effect of making the associations unpopular, although he agreed to some extent with Mr. Bevan's criticism.

Mr. Bevan knew a bee-keeper of thirty years' standing who allowed no one to look at his hives. He had had the disease on his premises for years, but boasted that he had exterminated it. His objection to experts was that by examining hives affected by foul brood they might carry the germs about in their clothes, and thus spread the disease where it would not otherwise appear. The expert always professed to carry disinfectants about with him, but that was open to question.

The Chairman said that no doubt a man appointed as Government inspector would take very great care to disinfect himself thoroughly.

Mr. Jonas believed that county experts would decline to act for the Government; at any rate, he did not see how they could hold the two appointments. It would be a very invidious thing for the county expert to go and condemn hives. To do so would be likely to put a stop to information being given voluntarily as now by bee-keepers.

The proceedings were continued for some time in more or less conversational form, the discussion finally turning upon the point of the most suitable local authority for dealing with the question, as mentioned by the President of the Board of Agriculture. The prevailing opinion, however, was that County Councils would be the proper bodies for entrusting with the administration of the Act, as being less subject to local influence than District Councils.

Mr. Carr then brought to notice the sections of Argentine honey referred to in B.J. for May 2 (p. 176) and it would be seen on reference that an endeavour was being made to place this honey on the British markets. The samples now shown, which, as they would see, arrived in excellent condition, and, so far as marketable form, were very good indeed, had been sent to the B.J. office by a London commission house. Comments being invited thereon, and the opinions of the editors asked as to whether there was any probability of a trade being established between South American bee-keepers and this country for comb honey of that description. It looked like heather honey, but the taste and smell in his (Mr. Carr's) opinion did not, to put it mildly, justify the appearance. There was a large quantity of it on sale in London.

The samples were then passed round the room and admired generally, so far as its appearance went; but after being tasted and smelled, the unanimous opinion was the reverse of favourable or complimentary.

The Chairman said the danger attending this introduction was that it might be bought for English honey, and its flavour and aroma (?) only discovered afterwards; but if the Associations made a point of using their own labels, there would be no possibility of this happening.

Mr. Carr thought English bee-keepers had nothing to fear from this importation, and in order to remove the taste of Argentine honey, as well as for comparison, he passed round a specimen of Cheshire extracted clover honey, which was highly relished by those who tasted it.

Mr. Carr also exhibited a feeder sent by Mr. Dixon, of Leeds, and known as the "Leeds feeder." Among its merits was its use as providing passage-way over several combs in winter, and being laid on the frames below quilts, the circular tin syrup-holder could be put on or removed as required without any disturbance. It also served as a candy-feeder for giving cakes of candy without disturbing quilts. It was much approved.

Mr. Greenhill exhibited frames of different sizes furnished with foundation fixed at the sides instead of at the top bar. He claimed that this was the best way of fixing foundation, because no "sagging" or breaking-down was possible. The usual saw cut in top bar kept the foundation straight along the bar, and the side bars being in two pieces held the sheet perfectly safe and rigid. After inspection the method of fixing foundation was generally admired.

The proceedings closed with a vote of thanks to the chairman for presiding.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

BEE JOTTINGS

FROM HIGHWAYS AND BY-PATHS.

[2081.] *Starting Bee-keeping.*—I would recommend those who are thinking of making a start in bee-keeping to lose no time in getting their bees, or the chance of their receiving any benefit therefrom this season will

be gone. A good swarm or stock should more than pay for itself if procured at once, if the beginner goes the right way to work, and has read the subject up well. Some may desire to know what constitutes a good swarm. In my opinion it should consist of, say, 30,000 bees, and will weigh five or six pounds. Having fixed on the purchase of the bees, I would advise the uninitiated to obtain the assistance of a friendly expert, or of some one well up in the craft, to put things straight, and to see that all is in order, so that the disappointment usually resulting from a bad start may be avoided. There is nothing I know of in which the advantage of a good start is of more importance than bee-keeping. Again, on no account buy stocks because they are cheap without having them examined by a person competent to certify as to their condition. They should be healthy, have young, prolific queens, and plenty of bees. Do not buy a hive in which the combs are old and black; they are sure to be unprofitable in the end. In the case of swarms, from whatever source the bees are obtained, bear in mind also that, should the weather become cold after hiving, the bees must be fed until it becomes warm again.

Heredity in Bees.—An interesting letter on this subject appeared in B.J. for March 22 (2274, page 122), closely followed by a reply on April 11 (2291, page 143). It certainly looked as if we were in for an intellectual feast, but disappointment followed, for the matter dropped. It is a pity a subject so full of interest should be just touched upon, and then fall through without further discussion.

Native and Foreign Bees.—Your correspondent Mark Dobell (page 208) inquires as to foreign bees. Having had some little experience on this matter, permit me to advise "M. B." to just leave them alone, and be content with the old and tried natives. What are called pure-bred bees, whether Ligurian, Cyprian, Syrian, or Carniolan, are not, in my opinion, worth naming alongside "natives" for all round work, and the only benefit to be derived for investing money in any of the former is to infuse fresh blood, and to obtain crosses with our own bees. In crossing, too, the only one I have found that did not make matters worse instead of better, is the one produced by a cross between the Ligurians and native bees.

What is Lysol?—C. J. H. Gravenhorst, in *Gleanings*, relates some facts with regard to this new disinfectant, which, by the way, is "made in Germany" from coal-tar, being brown in colour and smelling like tar. He tells us how Mr. Fulde uses "lysol 24 drops, carbolic acid 4 drops, to every 10 lb. of sugar syrup," and cures stocks badly infected with foul brood therewith, stating that he found "the sick larvæ dry in their cells after three days' use, and after a lapse of three weeks not a trace of foul brood was to be found. They were sound, and sent out a swarm;" but, Mr. Gravenhorst adds, "I do not have such confidence in lysol as Mr. Fulde has;" and continues as follows: "On account of the importance of the matter it may not be out of the way to report concerning a disinfectant I have used nearly twenty years, with the result that I hold the foul-brood question fully solved." He then gives a long account of the different places and conditions under which he "had to fight hard" against the disease, and overcame it, and adds, "I used, and have used till to-day, carbolic acid—not the refined article you get at the drug-store, but the black and unrefined article which is intermingled with coal-tar." Then come detailed instances of cures, and corroborative testimony of other German bee-keepers of standing, in confirmation of what he says. The recipes he gives are, as a preventive, a quarter gallon rain-water, and one teaspoonful of unrefined carbolic acid, and mix. He also washes his hives out annually in spring with this mixture and, as I gather, transfers bees, combs, and all into the washed hive whilst it is still wet with the solution.

When a stock is lightly affected Mr. G. says:—"I spray the combs, besides washing the bottom boards, with a warm solution of four or five drops of my carbolic acid to a teacup of water thoroughly mixed up in a bottle. This does no harm either to open or sealed brood. Besides this treatment I feed now and then such infected colonies with sugar-syrup, and add to a teacupful of the food three or four drops of my carbolic acid."

"Colonies badly infected with foul brood I treat in the following manner:—At a time when the bees will build comb, I brush them off their combs, and put them upon 'starters' in clean hives. Wash the bottom boards, and feed the bees with those solutions of food I have mentioned above. I have found out that 'starters' are better than full foundations."

Mr. G. also advises the removal and destruction of the queen in infected colonies, and concludes by saying, "If all be true that is said of lysol, it will surpass unrefined carbolic acid. Lysol consists of cresulic acid, made soluble in water by means of saponification." The question arises in my mind whether the foul brood spoken of above is of the same virulent nature as that with which we are acquainted in this country. If so, it seems pretty clear that it can be cured by drug treatment, and that carbolic acid in some form or other is the drug needed. But a fresh difficulty arises—bees don't like carbolic acid, and, in my experience, will sooner go without food than take it. In fact, no matter how weak the solution is, they give it a wide berth—so far as taking it in their food. I agree with the removal of the queen in infected stocks, and think that in treating diseased stocks this should be a *sine qua non*.

How to Convert Old Brood Combs into Foundation.—W. M. Little, in *Gleanings*, says:—"During the past season of 1894, I had

about 200 old combs that had been in constant use for twelve years. I tried rendering some, but could secure little wax from them, as the cocoons and other substances absorbed all the wax. So I began to experiment a little with a sharp Bingham honey-knife, trimming down the cells of these old combs. I soon found I could cut through the cocoons down to the septum by care, and leave the base of the cell intact; then, turning the frame over on a board, cut the right size to fit the frame, thus supporting the comb; I could trim down the other side in like manner, leaving a sheet with the base of the cells well defined. The bottom of each cell will be filled with the base of the cocoons of all of the past generations bred in them; these, however, the bees remove in a short time, leaving the septum much like a sheet of foundation at first. If the sheet is torn, or if there are patches of drone-comb that I desire to dispense with, I cut it out and patch it with brood-foundation, using melted wax to hold the patch in place until the bees fasten it permanently. I succeeded in getting 150 combs of this kind rebuilt in a few days in the early part of June last, before the honey-dew began to be gathered by my bees, when they would not build comb of any kind. These combs were mostly built on wired foundation in the first place, and, having been rebuilt, are firm, and stronger than those built first on foundation."

The bees seem to delight in pulling out the base of the old swaddling-clothes of former generations of bees, and mending the rents and patches in the old comb, and working them over. Here is a chance to economise, especially as wax is so scarce.—HENRY W. BRICE, *Thornton Heath, Surrey.*

BEES AND SANITARY LAWS.

[2082.] On reading the very interesting report in the B.B J. of the deputation to the President of the Board of Agriculture, on the all-absorbing (to bee-keepers) question of protection from foul brood, it occurred to me to express my views on this subject, in the hope that through your pages some further light might be thrown on the origin of and means of eradicating or lessening this bee-keepers' pest. I am a bee-keeper of some eight years' standing, and have been very successful with my bees, managing them entirely alone, but, having suffered severely from foul brood on one occasion, have naturally given it some thought.

I gather from the report above referred to that foul brood is supposed to be on the increase. But is this so, or is it only more noticeable now than formerly because more attention is paid now to the daily habits and conditions of bees than heretofore? Formerly, when anything went wrong with the hives, it was ascribed to witchcraft, and possibly some old woman made to suffer for being a witch. Now the real cause is searched for, and the old woman let alone. Few formerly fed their bees up for and protected them from the winter's cold. Swarms and one-year-old stocks were supposed to collect sufficient supplies for their winter wants, and allowed to keep what they got. Whilst those stocks that had lived the longest, worked the hardest, and become the heaviest, were relegated to the sulphur-pit, and thus periodically the germs of the disease (if it then existed) were, to a certain extent, stamped out. Now our bees are cared for, and supplied with an ample amount of stores, warm, dry hives, and thick quilts for winter use, and are not called upon to live the same wild life their ancestors did. When spring comes they are stimulated to the utmost limits, and during the summer are worked their hardest. Does not this treatment render them less hardy and more liable to take diseases than formerly? We all know the partiality bees have at certain times for manure heaps, mouths of drains, and open cesspools. May not the effluvia and possibly also the germs of some disease arising from these places, acting on the enervated constitution of our bees, produce what we term foul brood? I have not unfrequently seen in rural districts pigstyes without drainage, privies placed over open ditches, and several stocks of bees all within a few yards of each other. Now, how can these stocks be healthy, and how can any bee-keeper, however scientific and careful he may be, hope to keep his stocks healthy if within measurable distance of such pest-places? Take my own case. Before leaving my last abode, I had twenty-four healthy stocks in bar-frame hives. My apiary was kept scrupulously clean, and tended only by myself, yet foul brood appeared. How I know not. I could hear of no other cases in the neighbourhood, until at last I was told privately that a lady living within a measureable distance of my apiary, with surroundings almost described above had two stocks, one of which was badly diseased with foul brood. As I was then leaving the neighbourhood and so could not fight the disease, and not being willing to spread the infection, I destroyed all my bees, combs, quilts, and hives, and, so far as I could do, stamped it out. Now, if my theory is correct, that foul brood emanates in the first place from such places as I have described, ought we not rather to petition our legislators to carry out our sanitary laws in rural parishes especially, and in all parishes generally more strictly than at present, than to request them, as I gather the late deputation did, to make laws to eradicate the disease after it has gained a footing in our hives? I send you this letter, Mr. Editor, to insert in your valuable journal should you think any good will be derived by so doing.—JAMES HUTCHINSON, *Hereford, May* 25, 1895.

[Our correspondent may accept our assurance that foul brood will never be developed

in the way he suggests. Bees do sometimes seek for the saline matter found in offensive places, such as manure heaps, but never in the honey season. But, apart from this, the particular bacillus of foul brood will not be found in the places named unless combs or other matter from diseased hives are conveyed thereto.—EDS.]

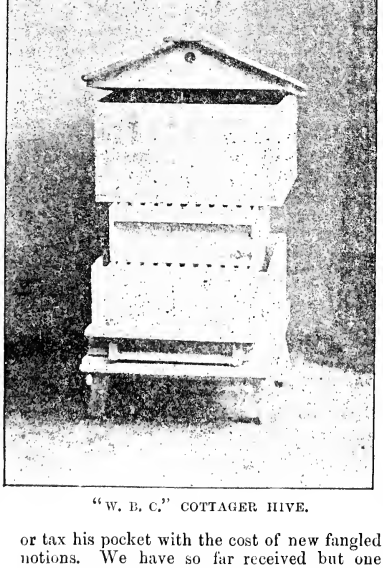
EARLY HONEY IN YORKS.

[2083.] On Saturday, May 25, I took off honey in sections from my hives, and, if the weather keeps fine for a few days, I shall be able to take two crates off during this week. Hawthorn just blooming, white clover beginning to flower, and drones flying on May 12. Not having seen any early honey taken, I thought I would send word of mine. Every prospect of a good honey season.—T. ROTHERY, *Stutton, near Tadcaster.*

NOVELTIES FOR 1895.

1. GREENHILL'S "W. B. C." COTTAGER'S HIVE.

It cannot be said that any rush of "new hives and appliances" have so far made their appearance to either bewilder the bee-keeper

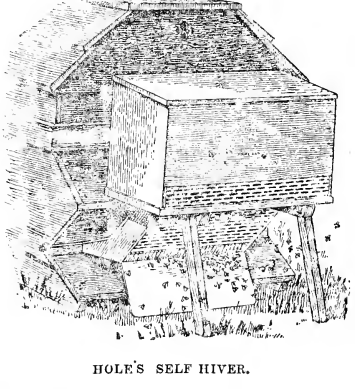


"W. B. C." COTTAGER HIVE.

or tax his pocket with the cost of new fangled notions. We have so far received but one illustration (not a very good one—a "process block" from a photo, by the way), of what is stated by the maker to be an adaptation of the "W. B. C." hive, constructed after the original model, but in cheaper form. According to the description sent us, "the frames can be worked either parallel, or at right angles, to entrance; there is ample space for packing between hive and outer case in winter, while the roof and deep covering for supers being detachable, the latter, when inverted, drops down over the lower portion of outer case, and so forms a still further protection to the stock hive in winter. The super cover is deep enough for one shallow frame box and a rack of sections, or for two of the former."

2. HOLE'S HINGE-PLATE SELF-HIVER.

Concerning this device—which though used last season has now been much improved—for



HOLE'S SELF HIVER.

securing swarms in the absence of the bee-keeper, the inventor says:—

"If the bees swarm the queen is at once trapped in a commodious compartment from which there is no return, while there is every facility for the flying bees to join her, which in nearly every case they have been found to do. If, however, they should not happen to do so, they return to parent stock, and so the swarm is saved.

"A most important feature in the self-hiver is the fact that the bees enter freely into the hive, both drones and workers, without having to squeeze their bodies and pollen-laden legs through the slots in the queen excluder zinc. There is, consequently, no brushing off of the pollen pellets, and the hive can never become quite clear of drones, a few of these being necessary to keep up the working ardour of the colony.

"The self-hiver can be applied to any hive in a few minutes; its only contact with the hive is at the entrance, as shown in illustration; it therefore does not stand in the way of any system of supering, or when manipulating. Unless in an exposed position, the hiver has

been found to need no more fixing than its weight and shape supplies. A little weight applied to the top would make it stand secure, however exposed. The only attention required, after once fixing, is to nightly remove the drones that may be trapped (sometimes a great many in hives that have too many drones), and to occasionally notice that nothing prevents the hinge plates dropping perfectly.

"The bees may be a little upset by the novelty of the entrance-way, but after the first day or so they will work through the hinged plates as freely as an open doorway."

(*See advertisement for further particulars*).

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3. ABBOTT BROTHERS' BRASS CONES FOR VENTILATORS AND BEE-ESCAPES.

Although there is nothing actually "new" about this little device—so far as the purpose to which it is applied. We can verify the description of the makers who speak of it as "a beautifully-finished article in solid brass. Better in every way than zinc, and cheaper." It is evidently punched from the sheet of brass into cone-shape, with a "holed" flange for nailing, and from its appearance might be gilded.

MISLEADING STATEMENTS.

A correspondent sends us a copy of the following letter which appeared in the *Manchester Courier* of the 24th inst. :—

"SIR,—I should like to say a few words with respect to some statements made in a letter published in the *Courier* for Friday last, April 21, *re* "Land Allotments at Didsbury," in particular those referring to bee-keeping, which are, in my opinion, misleading, and calculated to do considerable harm to the best interests of bee-keeping. With respect to the statement that "Modern apiarists say that with sugar at 1½d. per pound, and honey at 1s. per pound, large fortunes may be made by getting the bees to convert sugar into honey." I do not know what authority your correspondent has for such a statement, which, from all I have either heard or read, is, to say the least of it, misleading. Such sugar as can be bought at that price is injurious to bees—I don't say they won't take it. The highest authorities I know of recommend pure cane sugar only, and that cannot be bought at 1½d. per lb, and I have a dealer's list before me as I write. I do not say that honey cannot be sold at 1s. per lb, as I know it can, but, at the same time, English honey can be bought at 7d. or 8d. per lb. easily. It certainly is news to read that bees will convert sugar into honey; if they did, there might be a chance of making the large fortunes referred to by your correspondent. I know from experience that fortunes cannot be made at it, though I do not say that bee-keeping does not pay those who know what they are about. I question the statement that "90 lb. of honey and four swarms were obtained from one hive last year," which was a bad year for honey, but a good one for swarms. It is a recognised fact among bee-keepers that a large amount of surplus honey and swarms cannot be had from the same hive in the same season. The tenant referred to must have had a good market for his swarms, as good swarms can be obtained easily for 10s. or 12s. each. Some light might have been thrown on the matter had your correspondent given the kind of hive his tenant used, and the length of time he had kept bees. The authorities I refer to are the editors of the BRITISH BEE-KEEPERS' JOURNAL, one of whom is also the editor of the "Bee-keepers' Guide Book," a perusal of which would, I think, dispel some of the ideas contained in the letter. I do not, by any means, pose as an experienced bee-keeper, but I think I have seen enough to know that the statements referred to are entirely misleading. I trust you may find space in your paper for the above, as I consider such statements should not be allowed to go without comment. —Yours, &c., L. BATEMAN, *Newton, Hyde.*

THE HONEY BEE.

A very capital lecture, dealing comprehensively with the above subject, and illustrated with seventy or eighty original lantern slides, the majority of which were photo-micrographs taken by Mr. J. T. Holder, was given at the Goldsmiths' Institute, New Cross, on Tuesday, 30th ult. The natural history of the bee and its influence on fertilisation of fruit and flower blossoms were explained. Apiculture as a practical pursuit was strongly recommended, and several instances of large honey harvests made in this country were mentioned. The audience appeared thoroughly to enjoy the lecture, and at its close a hearty vote of thanks was given to the lecturer.—(*Communicated*).

Queries and Replies.

[1281.] *Managing "Wells" Hives.*—Having several "Wells" hives with only single-queened stocks in them, and being desirous to divide them so as to get two queens and possibly prevent swarming, I shall be glad if you would inform me whether the present queen should be retained in her present quarters, or should be put into the fresh compartment. — RICHARD DUTTON, *Witham, May* 27.

REPLY. — Under the circumstances and season, our plan would be to super the hive now and let the stock swarm later, then hive the swarm into the empty compartment of the "Wells," giving only about six frames (with foundation), and giving surplus chambers at

the time to the swarm. It would, of course, work for the rest of season as a double-queened stock, if all queen-cells but one are removed after first swarm comes off.

[1282.]—*Strengthening Stocks.*—I have two hives standing close to each other, one is doing well and the other has only four frames with patches of brood. I propose removing the poor hive, shifting the other midway and so get all the flying bees, making one good hive to work for extracted honey. 1. Will the bees unite amicably if I put a couple of pieces of naphthaline in each hive a few days before, will it be sufficient to give them a common scent? The poor stock I thought of placing close to another hive containing a young queen, but which has not been able to make headway owing to damp and cold having killed nearly all the bees. The next day, having killed old queen, give the frames with brood, to young queen and so make another fairly good stock. Will you kindly advise as to uniting this second lot, and will this be a good plan?—TYRO, *Bideford, May* 27.

REPLY.—1. If you first make sure the stock on your frames is not diseased, the plan proposed will certainly be advantageous to the hive from which surplus is expected, and will work out all right so far as method. 2. Unite the second lot by first using the naphthaline for a day or two, or sprinkle bees with scented syrup, and, after spacing frames in hive wide apart, alternate those of the stock to be joined up, putting a frame between each, so far apart that the bees will not touch.

[1283.] *Queries about Swarming.* — On Sunday, the 26th, one of my frame-hives swarmed, notwithstanding they had on a rack of sections half worked out, which I put on them the 5th inst. I watched the bees till eleven o'clock, so they must have swarmed later, but I find no trace of them in any of the numerous trees around. 1. How can I prevent the second swarm from issuing? 2. Will the bees work out the remainder of the sections? 3. Can I depend on a self-hiver working right? my hives being a mile from my house. 4. How soon after top swarm comes off does the young queen begin to deposit her eggs? Being eager for a crate of early honey, I kept my bees a bit short of room, instead of giving them another crate under. 5. Do you think this was the cause of their coming out, or did I not put the crate on soon enough? Bees that have been looked after and fed this spring here are very strong, but I know of ten hives (bar-frames) which wintered well, but seven have died right out since for want of a little sugar.—H. HAMILTON, *Wilts, May* 27.

REPLY.—1. By at once removing all queen-cells but the best and most nearly hatched one, *i.e.*, that having the wax capping of cover thinned down, as it were, by the bees. As bees swarmed five days ago, don't delay too long. 2. Very likely they will if no second swarm is allowed to come off. 3. That we cannot vouch for. Read descriptions on another page, and judge for yourself. 4. Usually about a week or ten days after she hatches out, if weather is warm and drones flying freely. 5. Delay in giving room will have hurried on the swarming, no doubt.

[1284.] *Suspected Combs.*—On examining two of my stocks the other day, I found two pieces of comb which I have sent you for inspection, fearing they contain foul brood. All of the combs seem about alike, rather dark and badly built; I think they are old ones. The queens in both hives look bright and fresh, and appear to be young ones—probably last year's. There is a lot of brood in both hives, and one lot is very strong in bees, and both working well. Would it be advisable to shake the bees off these combs and put them on new frames and foundation and feed with medicated syrup? I should like to do away with the old combs, but to do that would, of course, destroy the brood now in the frames. My two other stocks are standing close by and working well, and being, as I think, in health, I do not want to run any risk. Any advice will be most acceptable.—A. H. S., *Surrey.*

REPLY.—The contents of the few sealed cells in comb sent are so completely dried up that nothing remains to aid us in judging whether it has been chilled brood or foul brood. A very short time, however, will suffice to show if the present sealed brood hatches out all right or not. In the latter case a sample of comb with the dead brood therein will decide the point. Under the very slightly suspicious circumstances it would be a pity to take the bees from present combs and sacrifice the brood if not diseased. There will also be time enough to take the more drastic course later on.

Echoes from the Hives.

Calside, Paisley, N.B., May 27.—This has been the earliest year on record with me. I usually have my first swarm about June 8. This year I had my first swarm on May 20. Another issued from a second hive the following day—the 21st—but, as a cold wind was blowing, it returned. To this hive I had been adding a comb of foundation at intervals until it had fourteen frames. I also put supers on it a week ago, and yesterday, the 26th, it sent off a very large swarm. At the same time a cast came from the hive that swarmed on the 20th. Both these hives had two-year-old queens; a third hive, also with a two-year-old queen, is ready for swarming, but my fourth and last hive, with a last year's queen, is far behind. I have tried a "Wells" hive for two years, but have not succeeded. The two always unite and become one. A friend whom I induced to purchase a "Wells" has had the same experience.—M. FLETT.

Bee Shows to Come.

June 11 to 14.—At Bournemouth, in connection with Royal Counties' Agricultural Society. Annual show of Hants and Isle of Wight B.K.A. Liberal prizes, open to all. Schedules from hon. sec., E. H. Bellairs, Wingfield, Christchurch. Entries close June 7.

June 12, 13.—Essex Agricultural Society's Show at Southend. Entries close May 27. Schedules from F. H. Meggy, Hon. Sec. Essex B.K.A., Chelmsford.

June 24 to 28.—Royal Agricultural Society's Show at Darlington. Entries closed. Secretary, J. Huckle, King's Langley, Herts.

July 17, 18, 19.—Lincolnshire Agricultural Society's show at Grantham. Thirteen classes and liberal prizes for bees, honey, hives, and appliances. For schedules, apply to S. Upton, Sec., St. Benedict's-square, Lincoln. Entries close June 28.

July 19 and 20.—Bristol District Bee-keepers' Association. Annual Show at Knowle. Entries close July 13. Schedules from Miss Dawe, Hon. Sec., Long Ashton, Bristol.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries close July 1. Schedules from Jas. Birch, Sec., 3, Brunswick-street, Liverpool.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries close June 29. Schedules from Marshall Stephenson, Sec., York.

August 6 and 7.—Staffs. B.K.A., at West Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances. Schedules, when ready, from Harold Twentyman, Wolverhampton.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

Notices to Correspondents and Inquirers.

(Rev.) A. G. Roberts (Petersfield).—*Using Old Combs.*—1. So long as combs are free from disease they may be used again after picking out the dead bees as stated. 2. Bees of this stock have evidently been troubled with dysentery. Where combs are much soiled with the voided excreta, they should be melted down for wax. Beyond feeding till new combs are built, nothing can be done unless sheets of foundation be given to save time and help the bees forward.

C. M. W. (Middlesex).—*Swarming and Beginners.*—The fact of skep weighing only 7 lb. or 8 lb. a month ago, and now drawing the scale at 20 lb., shows that bees are working hard and doing well. Under all the circumstances, we should rather advise trying the self-hiver (see advertisement) than trying to make an artificial swarm from your single skep. To super the skep would delay swarming, no doubt. We cannot judge whether hive should be considered strong or not from details given, but it is evidently doing well. Your idea of driving bees, though creditable to your ingenuity, would not do; besides, the orthodox method is so much easier, and more simple.

J. Hamshar.—*Injured Queen Cast Out.*—Queen has been ruptured internally by some accident. It is almost certain that another will be raised unless the injury was received some time ago, which is not likely. The hive will, of course, receive a check through loss of queen. Very pleased to hear that our instructions for treating foul-broody stocks have resulted in cure.

Novice (near Gosport).—1. "Bee from roof." A small specimen of the ordinary black bee. 2. Bee from "Cowan hive." Slightly tinged with the foreign element, as is usual with our bee of this country. 3. "Bee from strange swarm." Hybrid Carniolan.

A. Drury (Surrey).—Queen is an adult, but we cannot give her age. Don't disturb the stock or supers; all will come out right if left alone.

H. T. Icingbell (Taunton).—*Sealed Syrup for Swarms, &c.*—Insects sent are wild bees of the Andrena species. We should not take any trouble to destroy the nest, and do not think any damage to the tree will follow their locating where they do. They are of no use to bee-keepers. Combs of sealed syrup may be given to swarms so long as it remains liquid.

F. G. L. (Chulmleigh).—Comb crushed perfectly flat when received, through insecure packing. We detect slight traces of disease in the crushed cells, and, for the safety of the stock in other compartment of the "Wells" hive, we should take out frames of comb at once and destroy them.

E. F. T. (Cornwall).—The piece of drone-comb to hand has no signs of brood in any of its cells, none of which are sealed over. So there is nothing to indicate disease. Naphthaline should be used in hives at all seasons.

J. H. W. (Hereford).—Bad case of foul brood.

T. T. (Cheltenham).—Only chilled brood in comb sent. If no sealed cells remain in other combs we should not hesitate to use them again.

Mr. W. (Coventry).—The bulk of sealed cells contain chilled brood. There are, however, traces of foul brood in a few, and we advise burning the combs and frames forthwith to avoid risk of infection in adjacent hives. Disinfect hive before using again.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

PURE BLACK BEES, swarms, nuclei, queens, NOW READY. ALSFORD, Expert, Blandford. H 23

SWARMS, May and June, 12s. 6d. each, or 3s. 3d. lb. Rev. — JARVIS, Stonehouse, Gloucestershire. H 17

BEES. — A few SWARMS FOR SALE. For price, apply, GILES, Cowsfield Apiary, Salisbury. H 35.

12 STRONG BORAGE PLANTS sent to any address on receipt of six stamps to pay box and postage. R. ILLMAN, Nurseries, Strood, Rochester. H 30

STRONG, Healthy, Natural SWARMS from united stocks, 1894 Queens. Price 15s. No foul brood in the district. J. WATTIE, Hinderton Hall, Neston, Cheshire H 27

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BREBETON, Pulborough, Sussex. 109

LACE PAPER for GLAZING SECTIONS. Three neat patterns, 100 strips, 22 inches long, 8d., post free, 500, 2s. 9d., post free. W. WOODLEY, Beedon, Newbury.

STRAW HIVES, best cane-bound, round or flat top, 1s. 3d. each, 12s. dozen. ABBOTT BROTHERS, Merchants Quay, Dublin. G 59

SPECIAL BEE VEILS, fine silk net, post free, 9d. each. ABBOTT BROTHERS, Merchants Quay, Dublin. G 60

BEES, Strong Healthy Swarms all '94 Queens, 10s. 6d. each. Swarm-boxes to be returned. ED. LONG, Cottenham, Cambs. H 11

SWARMS, 3s. per lb., 3½ lbs., 1894 Queens, packing free. LEMIN, 294, Hoe street, Walthamstow. H 31

FOR SALE, TWO good COMBINATION HIVES, 16 frames, fitted foundation, 1 lb. brood, 1 lb. super, smoker; 25s. CHILD, Alexandra-road, Epsom. H 33

SIX STRAW HIVES, with wood bottoms and straw and wood supers, nearly new. Exchange for strong Swarms of Bees, 1894 Queens, weight 6 lbs. M. CALLUM, 3, Church-street, Hamilton. H 32

NOW READY, NATURAL SWARMS, 3½ to 4 lbs., 12s. 6d. each. Guaranteed healthy. Box and packing free. ALBERT TWINN, Apiary House, Ridgwell, Halstead, Essex. H 30

IT will PAY all BEE-KEEPERS in Scotland, Ireland, Wales, Devonshire, Somersetshire, and Cornwall, to send to ABBOTT BROTHERS, Merchants Quay, Dublin. H 15

ABBOTT'S PATENT FRAMES, improved pattern, interchangeable with W.B.C. ends, 2s. doz., 21s. gross. ABBOTT BROTHERS, Merchants Quay, Dublin. H 14

GUARANTEED Healthy NATURAL SWARMS, 3½ to 4 lbs., 12s. 6d. each. Packing included. Orders in rotation. Porterage Telegrams, 1s. 6d. CHAS. WHITING, Valley Apiary, Hundon, Clare, Suffolk. H 4

Prepaid Advertisements *(Continued)*

FOR SALE, Three Bar-Framed HIVES; a small Slinger; crates of sections; feeding bottles, &c. All from Abbott's. Also six straw skeps with bell-glass supers. What offers. S. C. 17, Park-road, Southborough, Tunbridge Wells. H 5

CARBOLINE POMADE (Fourth Season).—Kills Bee-stings like magic, and prevents the horrible smarting and burning inflammation. Prevents getting stung, robbing, &c. In 1s. bottles, post free. T. HOLLIDAY, Astbury, Congleton.

COMB FOUNDATION, Abbott's celebrated flat-bottom or natural base, 1s. 8d. per lb., super 2s., with addition of 1s. with each order for packing, booking, &c. ABBOTT BROTHERS, Merchants Quay, Dublin. Sample parcel 2s. post free. H 13

CASH MARKET for any quantity of HONEY COMB in SECTIONS, EXTRACTED HONEY and WAX. Packages for Sections lent free. State lowest price. Address, H., *Bee Journal* Office, 17, King William-street, Strand, London.

YOUNG MAN wants SITUATION as Head or Single-handed Gardener. Can take charge of apiary. Eight years in last situation. First-class references. Apply, BEE, care of EDITOR, *Bee Journal*, 17, King William-street, Strand, London, W.C. H 34

THE YORKSHIRE
Bee-keepers' Supplies,
WILLIAM DIXON,
5, Beckett St., Leeds.
Hives, Extractors, Smokers, Feeders, Foundation, &c.
Prizes Awarded, Gold, Silver, & Bronze Medals.

TO BEE-KEEPERS AND SECRETARIES OF COUNTY ASSOCIATIONS.
GEO. J. BULLER, Triangle, Hitchin, Herts
(Many years Foreman to Mr. T. B. Blow),
Is prepared to undertake the management of Bees and general expert work, by the day or season.
For terms, apply as above.
(DEALER IN BEE-KEEPING APPLIANCES.)

DON'T GET STUNG!

WHEN, BY USING **APIFUGE** YOU CAN PREVENT IT.

BEE-KEEPERS SAY IT IS MARVELLOUS, AND THEY WOULD NOT BE WITHOUT IT.

Send for a Bottle at once.
Small Bottles, 1/2, Large Bottles, 1/9, Post Free.
Cash must accompany Order.
To be obtained of all Appliance Dealers and
DARCY GRIMSHAW, HORSFORTH, LEEDS.

THE HONEY BEE:

Its Natural History, Anatomy, and Physiology.

By T. W. COWAN, F.G.S., &c., &c.

Editor of the British Bee Journal.

Cloth gilt, price **2s. 6d.**; postage, 2½d.

London: **HOULSTON & SONS,** Paternoster Square;
ALL BOOKSELLERS; AND
British Bee Journal and *Record* Office, **17, King William Street, Strand, London, W.C.**

Editorial, Notices, &c.

TREATMENT OF FOUL BROOD.

As might have been expected, the month of May has brought with it the usual large increase in the number of queries referring to foul brood, accompanied with specimen of diseased comb. We do not know of anything which should specially tend to develop the disease at this season. Indeed, the plentifulness of the reported cases may be rather accounted for through its being the season for finding out the hives where mischief is being wrought, because of inspection being more frequent than earlier in the year.

In view, therefore, of the help needed by readers in dealing with diseased stocks just now—and at the request of several correspondents, who hear of, but do not see, our monthly paper—we insert below an article from the *Record*, bearing directly on the subject referred to, which, after a few introductory words, continues as under:—

We would therefore gladly banish the gruesome subject from our pages at a time when everything is, to the bee-keeper, so full of hopefulness. But this is just what we cannot do, for if an attempt at cure is to be made, this is the time to put it into practice. Another reason which adds to the present need for some light on the matter is the lamentable lack of knowledge prevailing among beginners as to the nature and character of the disease with which they sometimes have to deal. A letter recently received forces this fact so forcibly home to one's mind that, although already replied to by post, we print its contents here along with our reply, the latter being somewhat extended to make it more general in its application, and because of its special appositeness at the present time. Our correspondent, dating from the county of Herts on May 10, says:—

"Sir,—Having been asked by a friend to look at his bees (six hives), I examined them last evening, and find three out of the six affected with foul brood. One is past hope, the other two have a fair number of bees and several frames with brood, but very patchy. My object in writing is to ask if naphthaline or naphthol beta can be given at this time of year? and if so, which of the two would be more suitable under present circumstances? And what quantity should I require for curing?"

Our reply was in effect as follows:—

"This is the most suitable and proper season for making an effort to cure diseased stocks, but we first say that none but hives having in them as many bees as would constitute a fair-sized swarm are worth troubling about, unless two or more can be joined together. The attempt to cure decided on, prepare beforehand a set of new frames, and fit them with full sheets of foundation; provide also an old skep—or a box of about the same capacity. Choose a suitable day for the work, and don't begin till the bees have ceased flying for the day. It is also a good move, if convenient, to put on some garment which can be boiled after using. First, take the readiest means at hand for avoiding any commotion among the bees of adjoining hives; set the skep on box propped up in front on an extemporised platform, the latter being covered with a spread out newspaper; lift out one by one the frames of the hive, and shake the bees off them on to platform in front of the skep. As the frames are cleared of bees an assistant should carry them indoors, laying them on a newspaper ready for burning. When the bees are all got into the skep, tie over the mouth a piece of coarse canvas or net, and put it away where the bees may be kept quiet till wanted. Next proceed to burn the diseased combs, taking especial care to do away with all containing honey, so far as burying out of sight all remains which might attract bees if left above ground. Follow on the same night by scrubbing the hive well, using very hot water in which a large handful of common washing soda has been dissolved. After scrubbing, pour *boiling* water from a kettle spout all over the inside surface of the hive. Leave it till next day to dry, or dry well indoors. Next evening prepare a small torch, by wrapping a piece of rag round the end of a stick, wet the rag with paraffin, set it alight, and pass the flame over the inside of hive, going well into all corners and crevices, so as to scorch, without burning, the whole surface. After being exposed to the air for the night, to remove any smell offensive to the bees, the hive is fit for re-tenanting by the bees. Next morning, therefore, place in new frames of foundation, adjust the quilts

(clean ones, of course), put the hive on its old stand, return the bees, and feed with medicated syrup till the combs are drawn out. It need hardly be said that two or three lots of bees taken from diseased combs as above will get on better than a single lot; but after the above process has been gone through, and subsequent preventive measures taken, there are very fair chances of success. On no account, however, should the labour be undertaken for the purpose of trying to save a weak lot of diseased bees. With such, burning along with combs and frames is the only sensible course to take."

We assume the writer of the letter dealt with above, to be a beginner, otherwise it would be the reverse of encouraging to find such lack of knowledge on a subject to which so much space has been devoted in our journals for many years past. Any way, we give his letter as written, and may now still further add to our reply by repeating what has been so often said, viz., that naphthaline and naphthol beta—valuable though they, undoubtedly, are as remedial agents in curing diseased colonies of bees—will be ineffectual so long as combs with cells full of rotting brood, dead through being affected with bacillus alvei, are left in the hive. In all but the very slightest cases of incipient foul brood the whole of the combs containing brood or honey must be removed from the bees and got rid of. This is imperatively necessary. To inquire—as many do—"Will the balls of naphthaline put on the floor of the hive rid the bees of foul brood"? is simply absurd. Neither naphthaline nor naphthol beta will kill the spores of the disease. To say they will is to mislead, and those who make statements to the contrary are doing harm to the craft. We do not believe the chemical agent has yet been discovered that will destroy the spores without destroying brood and bees as well.

The value of the remedies referred to and their usefulness in preventing infection and the spread of the disease are indisputable; hence it is that we advise the constant use of naphthaline on floor-boards and medicating all bee-food with naphthol beta. Attention to this advice, and action such as is described above—when season and surroundings are favourable—will put readers in possession of all the help we can render in ridding their bees of foul brood.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

BEE JOTTINGS.

FROM HIGHWAYS AND BY-PATHS.

[2084.] *Bee Stings.*—These are ominous words in the ears of the average mortal, notwithstanding the Briton's dictum—"Who's afraid?" Well, it is not for me to say; but certainly if something akin to this feeling was not experienced by some, even of us Britishers, a far greater portion of our rural population would be bee-keepers than at present is the case. To my mind, it is simply marvellous—considering the way some good folks knock their bees about when manipulating—that more stings are not inflicted. Armed with so perfect a means of defence, it speaks volumes for the bees' good temper that this is so, because, no matter how well intentioned the interference of the "bee master," he can, from the bees' point of view, only be regarded as an enemy. A bee never volunteers an attack, save in the immediate neighbourhood of its hive, and even then never without some reason. Under manipulation the case is somewhat different, but, even here—with bees in normal condition—ordinary care and a certain amount of aptitude or deftness will, in nearly all cases, secure immunity from assault. There are seasons and conditions, however, when bees should be left severely alone—as in hot, sultry, thundery weather, or when robbing is the order of the day. Queenless stocks, too, are sometimes inclined to resent interference. There are also some people so naturally nervous and "jerky" in their movements as to render them totally unfit to go near a bee-hive. Others, again, whom I have met, go "slap-dash" at a hive, and bang about them when manipulating in a way that makes it positively painful to see them. To avoid being stung, one must study the foibles, requirements, and weaknesses of our "little labourers," so that when operating or working among we may be able to avoid the hundred and one little—unintentional perhaps—provocations which lead to stings. In a word, the whole secret of avoiding stings is "management." Learn to manage your

bees quietly, coolly, and carefully, but always with confidence. No nervous fear and tremblings when opening a hive, no sudden jerks, no jars, and no crushing bees. Gently remove frame after frame, do what is required, and the result is, no stings! Morever, never interfere with a hive without sound reasons for doing so, and when these reasons exist don't keep it open longer than necessary. Wear a veil on the hat always, ready for pulling down over the face when needed, but don't wear gloves; use the smoker or other subjugator just sufficiently to bring about the desired result, but no more. Finally, remember that to have confidence in oneself is to secure the confidence of others among whom we work, and this truism may be applied to that sensitive and wide-awake little creature—the honey bee.

Braula Cœca.—Some driven bees and queen, hived last autumn, were much troubled with this pest. The tobacco smoke, tried at the time, affected the bees more than the parasites. I thought the severe winter we had would have exterminated them, but a spring examination showed them to be as numerous as ever, the queen carrying five of them. I tried hand picking, but it did not answer. At the end of April I placed three half balls of naphthaline in the hive, and as the same disappeared I kept up the supply, and to-day (June 1) not a single one of the vermin could be found in the hive after careful search. They may have died out naturally, but the stock was affected for nine months, so I put it down to the naphthaline.

The Uses of Anger.—It might at first appear well for mankind if the bee were without its sting; but upon recollection it will be found that the little insect would then have too many rivals in sharing its labours. A hundred other lazy insects, fond of honey and hating labour, would intrude upon the sweets of the hive, and the treasure would be carried off for want of armed guardians to protect it. And it might at first appear well for mankind if the principle of anger was not a part of our constitution. But then we should be overrun with rogues. The presence of anger, always ready to start forth when an injury is done or intended, has the effect of suppressing much gross impudence and intolerable opposition. The sting of noble anger applied to a dastard who has bullied the weak or injured the unoffending, has a most salutary influence in restraining him for the future, and in warning his fraternity of the like punishment which is all ready for them. But man should control his anger as the bee does its sting. It is not to be perpetually projected on every possible occasion, but to be used only when impertinence, laziness, injustice, or fraud require.—*Family Doctor.*

From which Parent do Bees inherit Working Qualities?—This was one of the questions asked at the meeting of the Vermont B.K.A., reported in *Canadian Bee Journal*, and the unanimous answer was "from both." I think so, too, in fact it seems pretty clear that all qualities, good, bad, and indifferent, come from the same sources.

Is it a Pipe or a Whistle? — W. W. M'Neal, in *Am. B.J.*, says:—"Virgin queens often call to each other, or to something, by means of 'piping,' but that the wings are all that is brought into action is not yet clear to me. I have 'whistled' swarms out by imitating the call of the queen; so, in those cases, it was through the aid of sound alone the communication was given." Well, well, this clearly "takes the cake." Another thing is clear—W. W. M'Neal is, beyond all question, an expert, at any rate at bee-keeping. If W. W. M'N. would only give us full instructions "how to do it," we need not trouble any further about self-hivers, swarm-catchers, &c., but have simply to choose a quiet day, and, like the "pied piper of Hamlin," play or whistle our tune, and, presto! out comes our swarm just to suit our convenience. Dear me, the longer we live the less we know, and if we go on at this rate and live long enough, we shall all die in ignorance. After learning so much, too!—H. W. Brice, *Thornton Heath, Surrey.*

BEE NOTES FROM SUSSEX.

[2085.] About a month since I ventured (2069, p. 185) upon a bold prophecy. We all know what an unmitigated satisfaction to human nature it is to be able to say, in others' misfortunes, "There, didn't I tell you so?" But when you have plunged head over ears into a rash forecast of good luck, and, to your own unbounded astonishment, come out all right, you give yourself (metaphorically) a hearty slap on the back; you say to yourself, "Well done, my boy!" and you feel on beaming good terms with everybody else—for the time being.

The "big boom" has, at any rate, begun. May it continue! Though the season is late, everything connected with the bees is full of promise. Here, on the South Coast, for weeks we have been enjoying cloudless skies, day and night. The winds have been a little keen, but not enough to seriously incommode the bees in their flight after forage. All the blossoms seem to be running on in a continuous sequence without a perceptible break. The fruit blossoms were something marvellous. The bees simply revelled amongst them, with the consequence that, with us, apples will be plentiful, gooseberries, plums, raspberries, strawberries, cherries, and currants only a little less so; and only pears seem likely to be scarce. Then have followed on lilacs, laburnums, horse-chestnuts, and now the hawthorns and elders. The flowers and red clovers have also all come on together. Only a little rain has been wanted. In the last fortnight we have had two thunderstorms,

but only a cupful of rain each time; not enough to lay the dust on our roads, which are in a shocking and almost dangerous condition, the stones having worked out, and lying about loose all over the surface.

In my "Wells" hive the bees from one side (the other being yet too weak) are building out and storing by themselves all sixteen frames of a widespaced shallow super at a rate little short of marvellous. To-day, since the little rain last evening, I can say for certain that honey is being stored in quantity. In two single hives sections are being worked out, and the bees are increasing so fast in these three hives that I shall have all I can do to keep them back from swarming just yet, although under the brood-chambers of all three I have frames with starters only after Mr. Simmins' plan. The two halves of the hive I divided are doing well. One will receive its last two frames of brood foundation to-morrow, and will be supered as soon as these are covered and occupied. The other is showing a rapid increase in its population, owing to the quick hatching out of the beautifully-marked brood of the hybrid queen, whose introduction, after serious mischances, thus proves to have been successful. Both these lots are being carefully fed, and will give a good account of themselves presently.

If we can only get some rain before the white clover begins, and then a continuance of this fine weather, I am convinced the honey yield this year will be perfectly phenomenal. Only yesterday I was called to look at a neighbour's hive, where, although one rack of sections was on, the bees were hanging out in two great clusters; and no lift or further section-rack was ready to give them relief, poor things. In the village, a swarm from a skep, after being hived, flew away yesterday when no one was on the watch, and was lost. To escape the possibility of myself losing another swarme this year, I have secured, and have just received, one of Mr. Hole's most ingenious self-hivers, slightly altered, through his kindness, to meet some ideas of my own which (to me at any rate) increase its usefulness; and it will give me the greatest pleasure, both for my own sake and his, if later on I am enabled to report its usefulness and success in my hands.

When space is not so valuable as it must needs be at present, there are two subjects as to which I have much sympathised with several recent writers to the B.B.J., and upon which I should also much like to have my little say. 1. The expense of starting even a small apiary, which I (who have kept a true account of all expenditure and receipts) find enormous. 2. And the woes of dealing with black bees, when a sting on the hand makes your arm swell to three times its normal size right up to the shoulder, and a sting in the face places you *hors de combat* for quite three days afterwards! Truly, when you come to think of it, a bee-keeper is a wonderfully courageous, enthusiastic, and long-suffering being; and I am rather inclined to believe must be, like the poet, born and not made.—W. R. N., *Sussex, May* 31, 1895.

TREATMENT OF FOUL-BROODY HIVES.

[2086.] Now that the season for bees and honey is at hand, and the dreaded pest of foul brood will be making itself felt, I wish to report, for the benefit of bee-keepers, how the stock I treated, and reported in B.J. for August 23 last year (2054, p. 334) came through the winter.

I have been fighting this disease for more than five years, and tried several remedies recommended; but failure was invariably the result. But, thanks to the plan pursued of driving the bees from the diseased skep, and treating them as a swarm, I am now able to report that the stock above referred to is very strong, and seems now perfectly cured of the disease. I also treated two other stocks about a month later than above. One, a skep which appears all right and apparently healthy, but the other stock in a frame hive was killed by the frost, not having been securely packed, and being situated in a very exposed position. There were plenty of stores in this hive, which I had no hesitation in distributing among my other stocks, not finding a single trace of disease in the combs.

Now that the honey flow is almost with us, I would recommend bee-keepers having foul-broody stocks fairly strong not to let the season pass without an attempt in curing them. I may be allowed to remark that a stock found suffering from foul brood last autumn will rarely be found strong in bees after such a winter as is just past, or, indeed, any winter. —M. K., *Piltown, co. Kilkenny.*

A BEE DISTRICT IN CORNWALL.

[2087.] I had, a short time ago, the plea ure of spending a couple of days with a friend whose apiary is situated on the banks of the Tamar, and partaking of his hospitality. On the evening of the second day we proceeded to a favourable situation to view 20 acres or more of cherry, plum, and pear trees in bloom, and it was a sight to cause the heart of the bee-man to rejoice; but my friend is not only in possession of such an orchard as this, but many other kinds of fruit are grown on his farm. There are several acres of strawberries, besides gooseberries, raspberries, and apples, making it a veritable paradise for the bees, and an enviable location for any bee-keeper. During the two days spent in the immediate neighbourhood, I had an opportunity of observing, both near and at a distance, what the two banks of the Tamar are worth as a gathering ground for bees, and

whoever visits it—say from Saltash to Calstock—will agree with me that there is scarcely any better to be found in the counties of Devon and Cornwall.

Those residing on the banks of this charming river, with its many nooks and valleys, would be giving attention to their own interests if they were to consider what are the possibilities of so large and well-favoured a piece of country as this is for bee-keeping, for not only is every large farmer in this district engaged more or less in the production of fruit and vegetables, but nearly every cottager seeks to obtain some return from his bit of garden from the few flowers or small fruits it produces, and which finds so ready a market in one of the three towns.

It is not sufficiently understood how necessary bees and other insects are to a good crop of fruit. Even those who have studied botany (plant life) on the one hand and entomology (insect life) on the other, are not often practical men, and while they see that it is necessary for every bloom to be visited by insects to fertilise it and cause the fruit to set, the act is such an insignificant one that they scarcely advocate it or mention it as a fact. Think what would be the increase in fruit in such a district as the one I am referring to if the fertilisation of the blooms of the many thousands of fruit trees were ensured! Think, too, of the quantity of honey that might be gathered by the bees if there were bee-keepers in the neighbourhood, and how much might be added to the cottagers' earnings if they were in possession of a few stocks of bees managed intelligently.—JOHN BROWN, *Polyphant May* 6, 1895.

AN "EARLY" SWARM.

[2088.] I have a colony of bees on eight frames which I supered on Monday, May 27. This morning I covered up the hive about seven o'clock, as usual, with a sack, and, much to my astonishment, a first swarm issued from this hive at 8.30 a.m., the sun at this time being very powerful, although its rays were not striking directly on this hive. Is not this a very unusually early hour for a first swarm to issue?—GAFFER, *Gosport, May* 29.

[It *is* unusual for swarms to come off at 8.30 a.m., though we have had several as early in our own experience.—EDS.]

RUNAWAY SWARMS.

[2089.] I have just met with, to me, an odd experience. For some days past one of my three hives has been apparently on the point of swarming. To-day at 11 a.m. we found a swarm clustered on a small fir-tree within fourteen feet of said hive. Twenty minutes later I hived them in a skep, where they remained quietly until 3 p.m., when I found the swarm on the wing. They then flew to a neighbour's garden 150 yards off and entered a hive already full and also expected to swarm, at least so I am credibly informed. Is not this very unusual? Neither hive (frame hives) now appears crowded at entrance, but that may be explained by my neighbour's hive having tier of sections on. I seem to have lost a swarm without remedy.—JNO. FOALE.

[There is no accounting for such bee-vagaries as the above, but they do sometimes occur even in the best regulated apiaries.—EDS.]

AN INTERESTING LETTER

ON REARING "A 1" BEES, AND HONEY PRODUCTION.

Our old and esteemed correspondent, Mr. John Walton, of Weston, Leamington, has favoured us with a letter written to him some years ago by the late Walter Marshall, who was for so many years Messrs. Geo. Neighbour & Sons' "bee-man," and manager of the bee-farm at Hemel Hempstead belonging to that firm. The letter, besides being valuable as giving the views of a very experienced bee-keeper, is especially noticeable now because of its advocacy of working twin stocks of bees for mutual advantage, as does Mr. Wells to-day. We therefore print it below, believing that our readers will be as much interested in its perusal as we were ourselves. After some reference to private matters, Mr. Marshall goes on to say:—

Honey bees—for that is what we all want—in saying "all," I don't include those who merely keep bees as a "hobby," but only those who work them for profit. Now I am just going to tell you what I should do were I working for myself, you understand. I should select the very best brown English queen (the small black sort are not so good) to breed from, one whose bees had done well in honey gathering, start cells from this selected queen, and raise as many as I required for my purposes. Meantime, I should manage to have nothing else but Italian or Carniolan drones in my apiary. To succeed in this I should keep down drone-brood raising at nearly as I could, but if the bees persisted in raising drones after supplying full sheets of foundation, I should shave off the heads of all black drone-brood raised, and supply every stock with drone-brood from the best Italian or Carniolan stock I had. I should keep frames of drone-comb by me for the purpose, and by placing one of these into the selected Italian, &c., stock every few days, I should soon get all my stock supplied with drones of the kind wanted, and that will satisfy the bees and keep them from raising drones from the eggs of their own queen. Having the queens hatched out, and plenty of the selected drones to mate with them, the chances are I should get most, if not all, of my young black queens mated with Italian or Carniolan drones, and thus have the

desired bee for my purpose. On the other hand, hybrids got by crossing an Italian queen with a black drone are not nearly so good, and are very vicious. With bees crossed as advised, we get the best points of both. From the native queen we get (1) the hardiness; (2) winter's well; (3) makes whitest comb honey; (4) are more suited to our climate; and the Italian drone gives us the qualities of prolificness and gentleness. Now, we are supposing, then, that we have got the right sort of bees for "biz," as the Americans say. Next comes the best hive. Well, I suppose every one has got that, just as every mother has got the "best baby." My preference, however, is for twin-hives; they have, to my mind, many advantages over single ones. In the first place, two fair stocks winter better together than single lots, and they build up quicker in the spring, as each derives the benefit of the other's warmth. In the hive that I prefer the two stocks are placed in the centre with thin close-fitting dummy, *i.e.*, one that, when in position, will not allow a bee to pass. It is to be made of ½-in. pine, with centre hole cut out 1½ in. by 1½ in. Over this hole is tacked a piece of wire cloth on both sides. This allows the heat to pass through, and keeps both colonies of the same smell (an advantage which you will presently see). Give the bees sufficient room, and close up with thick double dummies fitting close at sides, but allowing ¼ in. space at bottom for bees to pass under into the empty chamber or play-room on each side. The advantage of this play-room in spring I can put candy, water in a saucer with a sponge in it, also syrup or pea-flour, and on cold days the hive can be closed entirely to keep bees at home, and if they are well supplied with the above there will be no "spring dwindling," as in hives the bees of which are allowed to fly just as they like.

On fine mild days it is, of course, beneficial for them to fly, and to remove dead bees, &c., which, in the meantime, will have been brought forth from the brood-nest into the outer chamber.

By having a window at the end of hive, you can see at a glance how the bees stand for food, water, &c., without opening the hive.

Now, let us suppose that breeding has been going on, and combs added as required until both ends of hive are full of bees and brood and are fit to swarm; also that honey is coming in. I should then take away the queen with three or four frames of brood, bees, and honey (hatching brood would be best), and place them in a new hive; then, by adding frames full of foundation, I build them up into a good stock. I next attend to the honey-stock, which contains all the old or honey-gathering bees and brood. I just alternate every frame, thus uniting both stocks without any fuss or fighting. If they are to be run for comb-honey, I place seven or eight combs of either hatching brood, or about half brood, and the others empty combs, into the centre with the remaining queen on them. That forms the brood nest. I then close up the thick dummies and place all the remaining combs containing brood, &c., at the respective ends of the hive, and set on super over the brood nest. The bees will hatch out the brood on the outside combs, and that forms a rousing stock on from twenty to thirty frames. Then comes the honey glut. If the bees had only the brood-nest proper and the supers, they would have to stay at home comb-building in the supers; but instead of that they have all the combs on the outside of brood nest wherein to store the honey gathered; they can store during the day and all hands (or all bees) work away in supers at night, carrying up the honey from outside combs into super as fast as they can build combs to receive it. Thus the bees are not idle at any time; having room to spare, they do not crowd the brood chamber with honey and stop breeding, which means swarming and loss of honey. If the bees will not take to supers readily, you can run the outside combs for extracted honey, so you get the harvest either one way or the other.

WALTER MARSHALL.

WEATHER REPORT.

WESTBOURNE, MAY, 1895.

Rainfall, ·18 in.	Brightest Day, 11th, 13·9 hours.
Heaviest fall, ·08 in. on 18th.	Sunless Days, 1.
Rain fell on 4 days.	Above average, 75·4 hours.
Below average, 1·89 in.	Mn. Maximum, 61·9°.
Max. Temperature, 74° on 30th.	Mn. Minimum, 44·3°.
Min. Temperature, 34° on 2nd.	Mean Temperature, 53·1°.
Minimum on grass, 26° on 2nd.	Maximum Barometer, 30·61° on 2nd.
Frosty nights, 0.	Minimum Barometer, 29·50° on 18th.
Sunshine, 314·2 hours.	

L. B. BIRKETT.

BEE STATISTICS.

A correspondent sends a press cutting—(without naming the paper from whence it comes)—which reads as under:—"For some reason, what that reason is we are not aware, bee-keeping is not in this country so general by any means as it should be considering the profitable character of the industry. On the Continent much more is made of the products of the hive. According to the latest details available the annual output of wax is about 15,000 tons, with a value approaching £1,350,000. Of honey, however, the annual production is estimated at 80,000 tons, and its value at £2,200,000. Of this total Germany, which possesses 1,910,000 stocks, contributes 20,000 tons; Spain, with 1,690,000 stocks, 19,000 tons; Austria, with 1,550,000 stocks, 18,000 tons; and France, with 950,000 stocks, 10,000. Even little Denmark produces 900 tons of honey, and Greece 1,400. In the

United States of America there are about 2,800,000 stocks of bees, producing annually some 30,000 tons of honey. No statistics relating to this industry are collected in Great Britain, but we assuredly do not make the best of our opportunities in this regard."

Queries and Replies.

[1285.] *Bees Transferring themselves.*—About a month ago, having a skep which was doing well, I set it above a frame-hive with five frames filled with foundation. In a week the bees had begun to draw out the foundation, so ten days ago I drove the queen below, and they now cover seven frames (brood in five). I shall, therefore, give the other three frames within ten days, when I propose removing the skep. Under these conditions would you advise me to let them swarm at once (after removal of skep) or try and prevent them (skep will be removed on Saturday, June 8)? Honey is the chief object, but I should not mind sacrificing 10 lb. or 15 lb. this season.—W. X. Y., *Chelmsford.*

REPLY.—If the stock were ours, we should first prepare a box of shallow frames, filling latter with foundation. Then remove skep and put on a queen excluder; drive the bees into a similar skep, run them into shallow-frame box, and set on top of queen excluder.

[1286.] *Ants' Nest in Hive.*—I bought three hives of bees the other day, two are strong and carry pollen plentifully, and as the bees clustered in a heap on the alighting-board I put on the shallow-frame box with foundation, as I read in the B.B.J. that that it tends to stop swarming if they have plenty of room. The other hive was so quiet, a bee rarely being seen to come out of it, so I have just examined it, and find that halfway up the lower box there has been an ants' nest, and only a few bees are left in one space. I find that the comb for that distance up is black, and empty, covered with cobwebs, and the remainder fairly clean, but where the bees are working the cells are full of honey; they carry no pollen in, but I see them come out to sun themselves, and often keep turning round, fall on the ground and die. I have sent you two dead bees and comb, the black is the bottom. The specimens in the lower box are from the other two hives, as on looking at them I find large quantities of dead between the side of the hive and the box of brood comb, as if they had got out of the box and could not get out of the hive, and had died there. That is only supposition on my part, as I know nothing about bees except their "hinder end." When should the shallow frames be put in? and would it be safer to put a swarm into the hive I have just described? I bring this before you at once, in case it may be foul brood.—JOHN M. HENDERSON, *Dorset, May* 20.

REPLY.—The hive with ants' nest—either past or present—wants turning inside out so far as combs and contents. Bees sent show no visible cause of death, but having recently hatched drones (Ligurians) among them, we should say the queen is worthless, and the few bees left are worthless too. We can say nothing as to foul brood from comb sent, but would clean the hive out well before using again, and burn the combs, if not worth melting down for wax.

[1287.] *Artificial Swarms.*—I should be glad if you would kindly advise in the following case:—I made an artificial swarm on May 24 by removing the old hive when the bees were flying freely, and placed a hive with combs of honey and one frame of brood from another hive in the old position. I find now that I have two queen-cells close together. 1. When will the queen hatch? and when may I expect to find brood? 2. Of course, only one of these queens will head the stock, the other being killed. When she goes out on her mating trips, will the other bees follow her, there being no unsealed brood?—W. H. P., *Norwood.*

REPLY.—1. Eight days from the sealing over of the cell, or sixteen days from the laying of the egg—probably the 5th or 6th inst. Queens usually commence laying about forty-eight hours after fertilisation. 2. There is just a possibility of this happening, but a frame of unsealed brood from another hive would prevent this, and be helpful to the bees in other ways.

[1288.] *Swarms Returning to Parent Hive.*—1. I had a swarm on Sunday, May 19, and they pitched on a currant bush. I hived the swarm in a skep in the usual way, but in a few minutes the bees all went back into the parent hive. What was the reason of this? 2. Are they likely to swarm again? This is my third swarm this month, the others being hived all right, and are doing well.—E. HOLLOWAY, *Westbury, Wilts.*

REPLY.—1. The queen either has for some reason failed to cluster with the swarm, or she has been killed during the process of hiving. 2. In the ordinary course the hive should swarm again about nine days later.

[1289.] *Dealing with Old Hives.*—Last year I bought a stock of bees in an old hive which was only held together by comb inside. I have just moved it into next garden, and by so doing have so badly shaken it that the sides have given way, and the bees (which are very numerous and likely to swarm soon) can enter at every corner. It is useless trying to repair it, as the wood is rotten. Please advise what is the best thing to do. Shall I super

and patch up the hive, or drive into new one, or wait until they swarm, and then re-hive?—CONSTANT READER, *Isle of Man.*

REPLY.—We should at once set the old hive on top of the frames of new one—fitting the latter with full sheets of foundation to prevent excess of drone-comb—and let the bees work down into it.

Bee Shows to Come.

June 11 to 14.—At Bournemouth, in connection with Royal Counties' Agricultural Society. Annual show of Hants and Isle of Wight B.K.A. Liberal prizes, open to all. Schedules from hon. sec., E. H. Bellairs, Wingfield, Christchurch. Entries close June 7.

June 12, 13.—Essex Agricultural Society's Show at Southend. Entries closed.

June 24 to 28.—Royal Agricultural Society's Show at Darlington. Entries closed. Secretary, J. Huckle, King's Langley, Herts.

July 17, 18, 19.—Lincolnshire Agricultural Society's show at Grantham. Thirteen classes and liberal prizes for bees, honey, hives, and appliances. For schedules, apply to S. Upton, Sec., St. Benedict's-square, Lincoln. Entries close June 28.

July 19 and 20.—Bristol District Beekeepers' Association. Annual Show at Knowle. Entries close July 13. Schedules from Miss Dawe, Hon. Sec., Long Ashton, Bristol.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries close July 1. Schedules from Jas. Birch, Sec., 3, Brunswick-street, Liverpool.

July 25, 26.—Kent B.K.A. annual show at Tunbridge Wells. Schedules from J. Garratt, Hon. Sec., Meopham, Kent.

August 5 (Bank Holiday).—Notts B.K.A. Annual County Show on the Sconce Hills, Newark. Eighteen classes for bees, hives, and honey, with liberal prizes, open to all. Entries close July 27. A. G. Pugh, hon. sec., N.B.K.A., 51, Mona-street, Beeston.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries close June 29. Schedules from Marshall Stephenson, Sec., York.

August 6 and 7.—Staffs. B.K.A., at West Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances. Schedules, when ready, from Harold Twentyman, Wolverhampton.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

T. JONES (Kidderminster).—*Honey Tins.*—These may be had from W. P. Meadows, Syston, or wholesale from the Self-Opening Tin Box Company, London. Honey in section being of last year, and granulated, is out of condition for sale purposes, but beyond being rather thin it is fairly good, and we do not detect any marked "sourness," as stated.

FELIX BRIDGETT (Stoke-on-Trent).—*Drone Cells in Foundation.*—If comb-foundation is made for drone-cells, we should not use it for any but surplus-chambers. It would lead only to trouble to try if bees would alter the cells to worker size by using it in brood-chambers.

PERPLEXED (Tolgarth).—*Syrup in Brood Chambers.*—1. There are no means of distinguishing betwen honey and syrup when inspecting combs, but sugar syrup is not honey, and if bees store it along with the latter the honey will be spoiled *as honey.* 2. Yes. 3. A stock should have about 20 lb. of stores in the combs, when packed up for winter, and if the food is sealed it is so much the better.

W. H. H. (Tender).—*Bees Deserting Hive.*—It is so altogether unusual for bees to repeatedly desert or swarm out of their hive, as stated, that without further details we cannot explain it. Is there any brood in the hive? Or anything unusually offensive about the combs?

E. H. M. (Hereford).—If queen has been raised from brood or eggs inserted on May 27, she may possibly have hatched out by the time this appears in print, or soon after. If she hatches out all right, there need be no fear of her not being fertilised at this season.

J. FENWICK, BENEDICK, and T. S. M.—Refer to the article dealing with foul brood on page 221.

W. A. BALCOMBE (Faversham).—*Driving Bees from Skeps.*—There is no risk in driving bees from skep twenty-one days after top swarm has issued. In fact, if it is desired to do away with the old skep, and put the bees into a new hive, that is the proper time to do it.

M. T. H. (Tunbridge Wells).—Comb is affected with foul brood, but as the disease is evidently not of long standing, we advise dealing with the stock as directed on p. 221.

JOSEPH SMITH (Kettering).—Stock is foul broody, and as the bees are so few in number, we advise destruction of bees, combs, and frames, and disinfection of hive.

Several replies to queries are in type but unavoidably held over till next week.

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Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

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Prepaid Advertisements *(Continued)*

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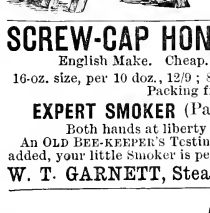

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16-oz. size, per 10 doz., 12/9; 8-oz. size, per 6 doz., 7/-. Packing free.

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Both hands at liberty to work frames.

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SEASON 1895.

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Our well-known
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Swarms, Wax, and Honey taken in Exchange for Appliances.

Catalogue of Bee Appliances FREE. Catalogue of Greenhouses, Frames, &c., FREE.
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Our "FALCON" SECTIONS to hand months back.

These are the only Sections fit to use for Self-Foundation Fixings.

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To be delivered, Carriage Paid, Holme Station, G.N.R.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER.—Almost without a break beyond a few much-needed showers, the weather has continued most favourable for bee-keeping, fully maintaining the character given of it a fortnight ago on p. 211, the natural result being rapid honey storing, which, as we write, is still continued where bee-forage is plentiful. We learn from a reader located at St. Albans that he had third storeys of shallow-frames on one hive, nearly all sealed over and ready for removal a week ago, the honey coming mainly from a large field of sainfoin. A Kent bee-keeper also reports, on another page, having taken 50 lb. of new honey from one hive on May 31. Some very fine new sections, too, have already been placed on the London market, so that the beautiful bee weather of the past three or four weeks has not only promised, but yielded well.

On the other hand, we hear of a few cases where strong stocks, with bees in full possession of surplus chambers, have been gathering but slowly for some days past. This, however, may very safely be put down to lack of forage in the district where such hives are located. Bees cannot gather surplus if there is a scarcity of nectar-secreting bloom in the locality, and nothing short of this latter condition will account for the difference in results. Where one or two sources of supply are solely relied upon for surplus, the point is to work up for them; in a word, to be ready with a large army of workers, and wait! The bees will themselves soon make it plain when honey is to be had.

The present season, though now so full of promise, was almost an entire failure so far as the early supply usually got from fruit-bloom. Excepting where raspberries are grown by the acre, as in Kent, the fruit-bloom has been over for some time, and, owing to cold winds just at what ought to have been its best period, little or no surplus was gathered from it. But full amends have since been made for the earlier failure, and rapid storing is now so general in favourable districts that new season's honey is assured for the early shows. What is now wanted is a few good soaking showers at night to help on the clover plant and make the bee-keeper rejoice.

SWARMS.—Bees maintained their predilection for Sunday "outings," the 12th ult. being a big day for swarms. The 11th and 13th also appear to have yielded a fair number, but Sunday was the bees' choice. More or less swarms issued subsequently, until the cold winds of the latter end of the month supervened and stopped further bee-emigration, which is now getting into full swing again. Where top swarms come off just when honey is coming in fast, and surplus chambers are filling well, it is important to set the swarm, after hiving, on the old stand, and at once remove the supers from parent hive to the swarm for completion. If the latter is hived on about six or seven frames fitted with full sheets of foundation, and the hive contracted by close-fitting division boards, there will be little or no diminution in the amount of surplus honey compared with what would have been secured if the stock had not swarmed at all.

The parent hive, after removal to a new stand some distance away, may have all queen-cells but the best one cut away, and be left to recoup itself, unless increase of stocks are desired; in which case the brood-combs may be divided into two or more nuclei, with a good queen-cell in each. Carefully tended and kept warm in their earlier stage, these nucleus colonies often make the best of stocks for another year. The opportunity should also be taken (when dividing up into these nuclei) for removing all frames containing superfluous drone-comb, or any that are faulty from whatever cause.

ARTIFICIAL SWARMS. — The favour with which natural swarms are now regarded, and the preference shown for such over artificial swarms, is very marked, nor do we see anything but consequent good as a result of the change. Everyone claiming to be a bee-keeper should, of course, know how to form an artificial swarm, because there are times when, and circumstances under which it is the best of "management" to swarm a few stocks artificially, but for the ordinary bee-keeper suitably situated natural swarming is, for many reasons, incomparably the best and most generally successful.

PREVENTING SWARMS.—Where not already on, surplus chambers should at once be given to all strong hives. Better give room too early than too late, if prevention of swarms is desired, because once bees make preparation for swarming, no amount of room will stop them. Nothing, however, more surely tends to the latter object than keeping young queens at the head of stocks, and this is one good reason for rearing a few surplus queens in nuclei, as already mentioned, to replace old queens in autumn. Before giving first surplus chambers, advantage should be taken of the opportunity for renewing the supply of naphthaline on floor-boards of all brood-chambers. A supply given now will last till bees are being packed for winter.

RUNAWAY SWARMS. DECOY HIVES.—Inquiries as to these are again coming in. On the first point we cannot do more than refer readers to what has appeared in our pages regarding the law on the subject, so far as it has been propounded. Decoy hives, too, placed in gardens for the purpose of enticing errant swarms are annoying enough to the victims of such tactics. But they are not illegal, consequently no steps—beyond trying "moral suasion"—can be taken to compel removal of the same.

CONTRACTING BROOD-CHAMBERS.—We would once more remind readers that bees produced from eggs laid after midsummer day has passed will do little or no surplus storing this year except where hives are within reach of heather. Bearing this fact in mind, therefore, it will be seen how secondary in importance becomes the need for a large brood-chamber subsequently to the date named. And this is why it has been urged, not without good reasons, that a contracted brood-chamber is decidedly advantageous during the honey-gathering season, so that a larger body of workers may be available for field labour, which means honey.

FIXING FOUNDATION.—The general use of split-top bars for frames, and later of split tops for sections, have largely dispensed with the necessity for the wax-smelter formerly used for running hot wax along the edge of foundation to attach the latter to the wood of frames and sections. Those who still prefer the old method named last may provide themselves with a good enough substitute at almost no cost by bending a metal spoon into the form shown in cut.

This is an old "dodge," but it answers the purpose very well if the cup containing the molten wax is inserted in a pan of water kept as near boiling point as may be. The secret of making a firm joint is using *very hot* wax for your "solder."

HONEY BONUS.—According to an Australian press-cutting sent us, the Victorian Government, in order to encourage an export trade in honey, "has decided to grant a bonus of 1d. per lb. for honey of approved quality gathered by bees in Victoria and exported." Another reason for the use of county honey labels.

BEE STINGS AND RHEUMATISM.—Another press cutting received is one on which British bee-keepers will look with more favour than helping Australian honey into our own market. It reads as under:—"In Malta bees are plentiful, and bee stings are in such repute as a cure for rheumatism that resort to this primitive method of inoculation has been in common practice in severe cases for generations, the results, it is said, having been most satisfactory to the patients."

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of May, 1895, was £3,293.—*From a return furnished by the Statistical Office, H.M. Customs.*

AN APPEAL

ON BEHALF OF THE WIDOW AND FAMILY OF THE LATE THOMAS BADCOCK.

Amount received or promised ...	£5	17	6

The following sums have since been received:—

J. Huckle	0	5	0
R. Green	0	5	0

We purpose closing the fund next week; those purposing to send a donation will therefore please forward same without delay.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C." (see 1st page of advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

A CO-OPERATIVE HIVE.

SOME QUESTIONS ABOUT QUEEN-REARING.

[2090.] So much has been already written on the system of keeping several queens in one hive, that it is with some hesitation that I venture to add to the literature of the subject. I have kept bees for nearly fifteen years in almost all sorts of hives, and until recently have been strongly impressed with the advantages of comparatively small, manageable hives, say, ten bars, which could be tiered up to any required strength. Most of my experience has, however, been in a large garden of nearly 3 acres, where, for a matter of thirty hives, space was no object. Having now only a very small strip of garden to devote to bees, it seems to me that any form of economising space is an advantage to bee-keepers similarly situated, and therefore last year I determined to try Wells' system with ordinary combination hives, having an entrance cut at the back ; and it seems to me that, while admitting the trouble of manipulation with large fixed hives, the system might, in certain circumstances, be not only useful but capable of extension. I intend if possible this summer to fit up and stock such a large compound hive, say 6 ft. by 2 ft., holding perhaps half a dozen colonies. It seems to me that such a hive would be useful where space is limited, and that also the danger of robbing would be minimised, as probably all the bees in such a hive, whatever entrance they might happen to use, would incline to treat the hive as common property, and not attempt to rob except from another hive. This can, of course, only be decided by experiment. I hope to get over the difficulties of queen-mating by having a few entrances at the back, which can be used for nuclei. Apart from this, however, it seems that the "Wells" system, as ordinarily practised, has the advantage of readily allowing us to save an extra queen or two in autumn to make up any losses in the spring, and also that it has a considerable bearing on the kind of race and style of queen it is desirable to rear. The only objection to which I attach any weight which has been urged against "natives" is that the queens are less prolific than those of other races. As to their ceasing to store honey sooner in the year, I think that the fact that they generally do well at the heather shows that where honey is to be had they will store it. But by having two queens in a hive, each laying, we have much the same effect as having one queen of twice the prolificacy. Or, in other words, while securing a large brood-nest, taken as a whole, we yet reserve to each queen a fairly contracted brood-nest, and if we adopt narrow spacing, and say seven or eight bars to each queen, my experience is that we get these frames a dense mass of brood, that the bees take readily to the supers, and that little or no honey is found in the brood-nest. At the same time the queen is not overtaxed in any way. No special stimulation, except feeding in bad weather, is necessary, and the queens should be available for at least two or three seasons, instead of being worn out in one, as is the case when heavy and continuous breeding is required on the part of the queen, so that the expense of queen raising is very much reduced. It would therefore appear that in rearing queens for working on the "Wells" system, longevity, hardiness, and honey-getting qualities should be sought, while great fertility on the part of the queen is of secondary importance, although, of course, that should also be secured if possible, though not at the expense of the other points mentioned.

And now a word or two as to securing the race of queens we require. Your correspondent, Mr. Brice, in B.J. of May 30 (p. 214), regrets that the discussion on heredity (by which, presumably, he means Mr. Grimshaw's letter and my reply thereto), has been allowed to drop. I should be much interested in hearing his own views on the subject, and, doubtless, many other bee-keepers would be glad to hear them also.

I should also like to ask a few questions with regard to Mr. Brice's articles on queen-rearing which appeared last autumn, and which I read with great interest. As I have not the back numbers of the B.B.J. by me, while writing this, I may be pardoned if I quote him incorrectly, or have misunderstood some of his remarks. In the first place, why does he consider it necessary that to produce fine queens there must be a fertile mother present in the hive where they are reared? I have not found this to be the case practically, and theoretically one would expect that queenless bees would, in their effort to obtain a queen, devote all their energies to that purpose. All that I have found necessary is to secure a strong colony, with plenty of young hatching bees, little or no unsealed brood to feed, and eggs to start from. Secondly, if I remember rightly—but I am not sure about this—Mr. Brice concludes that when rearing a queen in the ordinary course of nature, the bees do not first make a queen cup in which

the egg is laid, but that the queen cups found on combs are utilised for this purpose; but, on the contrary, the bees construct a queen cell round a larva already hatched. Remembering the distinction which the late Mr. Cheshire draws in his admirable work (vol. ii.) between a normal and what he terms an emergency queen cell, and the diagram of former with egg in position at base of cell, I felt doubtful of this, as such a careful worker as Mr. Cheshire would hardly be likely to draw on his imagination in such a matter, but still, until this morning, I had no personal proof of the contrary. To-day, I was removing a comb of brood from a strong stock to make room for a sheet of foundation to supply eggs for queen-raising. The comb removed was a new white one, worked out from foundation a few weeks before containing capped brood, and in the centre of comb I noticed two open queen cells. On inverting the comb to look in I saw in the base of each an egg evidently deposited in the cell for the express purpose of raising a queen. I removed frame to another stock, and shall see whether they continue the work already begun for them.—M. C. CLUTTERBUCK.

(*Conclusion in our next.*)

NON-SWARMING SYSTEM.

[2091.] I have been much interested this winter in the perusal of Mr. Simmins' book on the above system. I therefore determined to experiment with it on one of my best hives. About three weeks ago I united two hives into one, filling it with twelve full brood-combs, placed another hive below with frames and starters as directed, put a super above the top tier, and waited for results. The first result which gave me uneasiness was that the bees refused to take to the super, while all my other bees were working well into theirs. This I did not like. To-day I thought I would look below, as I remembered Mr. Simmins' injunction never to let a comb be finished. I confess it was not without misgivings that I lifted off that hive, for the habit of bees to finish up "starters" with drone-comb was one which I was not altogether unacquainted with, and it had often occurred to my mind, What if a large family of drones be coming on in the "non-swarming chamber"? However, I confess I was not prepared for what I did find. Every frame was being nicely filled up with lovely *drone comb*; and there the charming creatures were in every stage from the egg to the capped cell! Had I left them a little longer my apiary would have been well "manned." Now what was to be done? If I could have found the queen in this chamber I should have put her into the parent hive, and all would have been simple, for I should never have given back that drone brood to the bees. But I could not find her; the comb, too, was very tender, and would not bear much handling; so I swept the bees gently off into the parent hive, supered it with two good section boxes, and took away all this comb, which, when the eggs and grubs are dead, can be used for supering. Who would willingly adopt a system which lays them open to all this waste of time and of bee labour? While they have been building all this drone comb and finishing it with useless brood, they might nearly have filled a box of sections. I should, however, be glad to know whether others who have tried this system have found it answer. For myself I am only thankful that I confined my experiment to one hive. I shall not speedily repeat it.—CHARLES E. COCKIN, *Etton, Hull, June* 8.

EXPERIENCES WITH FOUL BROOD.

[2092.] Seeing by the BEE JOURNAL and *Record* how much there is of agitation respecting foul brood, I will try and relate how I eradicated this disease from my apiary. I have tried almost all known remedies—viz., salicylic acid, phenol, camphor, and last, but not least, naphthaline; but, depend upon it, none of these remedies are complete without removal of the queen from diseased stock. The only plan I can find to deal with foul brood is, when you are quite certain that the bees have it, is to get a clean hive and a clean set of combs (perfectly free from even suspicion). Make a swarm of the diseased bees, substituting a young and vigorous queen for the one previously removed from the affected hive, the combs and frames of which must be burnt. Feed gently with medicated syrup made according to Cowan's "Guide Book," and with naphthaline placed on floor-board, here, again, according to directions sent out. I repeat again, remove the queen, as, in my humble opinion, this is where the evil lies, and have no doubt in saying if the Cheshire cure is carried out to the letter—which is similar to above statement—a cure will be effected.

I would like to add that I have always given the empty hive from which bees were removed two coats of oil paint inside and out, well rubbed in. A hive thus treated two years ago is now one of the strongest stocks I have this season, as, indeed, it was last.—J. D., *Chichester.*

A SUPPLY DEALER'S MISHAP.

We are sure that not a few readers—who have known Mr. J. S. Greenhill for many years as bee-man to Messrs. G. Neighbour & Son—will share our regret at hearing of a—to him—serious fire, which occurred in his workshop, Wimbledon, on Saturday morning last, destroying the whole of his stock of timber and a number of hives, &c., in the flat ready for nailing up. The saw-bench and most of the tools were also so damaged as to be practically useless. How the fire started remains a mystery, for work had gone on as usual up to breakfast-time, and no fire or lights were used

in the workshop. Mr. Greenhill had left the shop, and was breakfasting in the house attached when the alarm of fire was raised, and, owing to the inflammable nature of the stock, the place was burnt out before any effort could be made to extinguish the flames. Fortunately the fire was confined to the workshop, the stock of made-up goods in the adjoining building being uninjured; otherwise the loss would have been still more serious, as nothing was insured.

HULL AND DISTRICT B.K.A.

The sunless sky of Monday, June 3, was rather a drawback to the visit of the Hull and District Bee-keepers' Association to Burton Pidsea, at the invitation of the vicar, the Rev. R. M. Lamb, but a most interesting afternoon was spent in the vicarage garden, and the vicar's lucid explanation of the habits of the busy bee, and the pitch to which the production of honey can be raised by long experience and careful study of these habits, was no less interesting to the lay mind than to the students of bee-culture themselves. Mr. Lamb was able to demonstrate that, with proper care and attention, bee-keeping could be made a profitable as well as an interesting hobby, and his willingness to impart the results of his own experience and others should lead to the extension of bee-keeping in the East Riding, which is admirably suited in every way for the production of that delicious but comparatively little-used delicacy, honey.—(*Communicated.*)

NOVELTIES FOR 1895.

THE "BRICE" QUEEN-CAGE.

The queen-introducing cage here illustrated has been devised by our correspondent, Mr. H. W. Brice, whose articles on queen-raising, which appeared in our pages last year, created considerable interest in the subject. Regarding his queen-cage Mr. Brice says:—If we take the parts 1, 2, and 3 separately there is

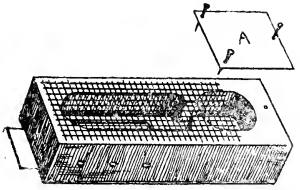

Fig. 1.

little that is entirely original in them, but viewed together the cage will be seen to contain a useful and novel combination. Fig. 1 shows the ordinary travelling cage for queens, but with the addition of an opening in the bottom covered with a cardboard slide, B. This slide is seen partly withdrawn in fig. 2. The portion of the cage which is fixed upon the comb when in use is made entirely of

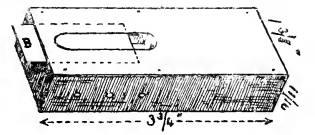

Fig. 2.

wire cloth, the open side being pushed through the cells of a comb containing honey nearly to the midrib. As seen in fig. 3, it is shaped so that the top-bar of frame fills in the part "shouldered out" when fixed on comb, leaving an aperture at top of the wire cage through which the queen passes from the wooden one (fig. 1) when the slide B is withdrawn and enabling her to pass below. She remains there until the bees complete the introduction of the new "mother" by eating away the comb round the edge of cage, and releasing her themselves, usually within forty-eight hours.

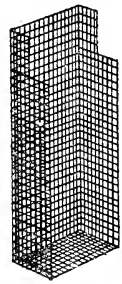

Fig. 3.

The same cage allows of another method of introduction as simple and easy as the above which dispenses with the wire-cloth cage entirely. By this second plan the cage (fig. 1) is placed face down on top of the frames for twenty-four hours; then, removing the cover A (fig. 1), and replacing the cage as before. The bees will release the queen—by eating away the candy, to which they have access after removal of cover—and allow her to enter the hive unmolested.

The advantages claimed for the above cage are—1. Buyer can inspect his purchase without breaking seal of slide, and, if not satisfactory, can return same to seller intact, thus securing *bona fides* of both. 2. No handling—or even touching—queen needed. This is most important in safe introduction. 3. The same cage offers the choice of two methods of introduction, both easy and both safe, as described above.

A BEE "SHOW."

We print below a specimen of the sort of "bee food" administered to the—technically—uninformed readers of our popular weekly periodicals, with enormous circulations. The story is evidently intended to be taken

seriously, though it will create a smile among bee-keepers, and the only reason for its appearance here is that we may characterise it as a bit of ridiculous nonsense. It is headed—

"FILLS HIS MOUTH WITH BEES,"

and reads as under :—

"I am the only man I know of in my line of business," said to the writer a man who carried about with him a number of ordinary bees in a box.

And the man's show was certainly a novel one. When he had gathered a crowd about him he dispersed the insects from the box into the air, and they flew away in different directions. Then he began to whistle, and stretched forth his right arm rigidly from his body. All the bees returned and settled at once on the extended right hand and wrist. Then he took his cap off, and the bees all settled on his hair. Then he put his cap at his feet, and the insects transferred themselves to the cap. Then he placed several of the bees in his mouth shut the latter for a moment, and then slowly opened it, whereupon the bees flew out in a leisurely way.

His strong point then was to challenge the country people about to bring bees of their own, he alleging that he could do "anything he liked" with the strange insects. When the performance was over he whistled again, and the bees flew into the box.

He said afterwards to the writer :—

"I dare say my word isn't worth much, guv'nor, but I tell you I can manage strange bees just as well. Try me—let me earn half-a-dollar—there are lots of bee-keepers about here. I'm giving away no particular secret when I say that in my performance I smear my hands, cap, and hair with a syrup made according to a secret prescription."

[The above would imply that the street performer had taken to bee-keeping as a profession—that the performing canaries and the dogs are played out, and that his latest "find" is bees—*our* bees! We are glad to note the phrase—"let me earn half-a-dollar"—fixes the source of the story across the water. Anyway, so long as it is only laughed at for its absurdity, no one will be misled by it.]

Queries and Replies.

[1290.] *Transferring Bees.* — Some weeks ago I purchased a hive of bees, and as the frames have only 15-in top-bars I decided to transfer them to standard frames. In doing this I placed the eleven frames comprising brood-chamber over a body-box with frames of drawn-out comb, some of which were partly full of honey. I hoped that the queen would descend to bottom set of frames, but on examination a fortnight later I found she had not done so. Though objecting to the old short-bar frames, I do not want to lose such a good lot of brood. I also thought that after the brood was hatched out bees would use the top chamber as a super. 1. Shall I be doing right if I take some of frames from lower chamber, and place a few with brood alternately to fill up? And if I do this how many frames should I put in bottom chamber? Also, how long will the remaining frames be before they are available for honey, supposing, of course, that the queen remains below? In this connection I should also ask, am I to be particular to put frames of empty comb between brood in bottom chamber, and will this be likely to chill the brood? 2. As I do not want to retain the old frames in body box through the winter, will it do if, instead of moving several frames down, I found the queen and placed the frame that she was on in bottom chamber in the middle, and did not put any more old frames in bottom body box, not using excluder zinc, as there is drone-brood above?—YOUNG BEE-KEEPER, *Leicester.*

REPLY.—1. The wisest and best course is to let the box with short top-bars remain as it is, without disturbing it in any way. When further room is required by the queen for breeding purposes the brood-nest will be transferred to the standard frames below, and as honey comes in it will be stored in the combs of the upper box as the brood in latter hatches out. At close of season—or when full—the box may be removed as a super. 2. As stated above, do not do any removing of combs or queen from upper box at all, nor should queen-excluder be used between the two chambers under the circumstances.

[1291.] *Transferring from Skep to Frame-hive.*—I have a strong skep of bees which for the last fortnight has looked like swarming, but has not done so. I, therefore, on Saturday last, the 8th, moved the skep to a bar-frame hive, putting it on to the top of the frames fitted with comb foundation. Would you be so good as to tell me (1) if at the end of two or three weeks I might remove the skep again, and repeat the operation with another hive? I should not want to keep the skep as a stock hive, but should transfer the bees to the second frame-hive. 2. If I do this I suppose there must be brood in the queenless hive from which a queen will be raised. Must it be unsealed, or can the bees alter a sealed cell? How near must the second hive be to the first? 3. Is it right to still put salicylic acid in all food used!—H., *Burgess Hill, Sussex.*

REPLY.—1. Pre-supposing that the bees have transferred their brood-nest from skep to the frame hive below, it is more than probable that after the lapse of three weeks the main portion of the brood in skep will be hatched out, and have been replaced by honey. 2. We do not quite follow last part of first query, which connects itself with No. 2. Is it proposed to remove the skep—three weeks after

setting it on first frame-hive—and put it over a queenless stock located in another frame-hive, in order to get the latter re-queened? If this be so, the plan adopted would be entirely futile. Bees can only raise queens from eggs, or from young larvæ not more than three days old. Besides, all the flying bees in skep would—after the second removal—return to the frame-hive from which they were taken. 3. Yes. All food given should be medicated.

[1292.] *Bees Refusing to Raise Queens from Eggs Given.*—I want to ask your advice in a matter that has happened to others besides myself here. I refer to the difficulty in getting a queenless stock to raise a new queen. Finding one of my stocks early in May to be in this condition, and having plenty of drones, I introduced a frame of eggs and brood to the queenless hive. These were duly hatched, and I then gave another, with the same result, but no indication of queen-cells, although corners were given on which to form them; another similar frame has been given since, but there seems an inability to supply the necessary article. Perhaps I should have given a queen-cell in process of formation, but I failed to find one amongst my other hives. What would you advise? — JAS. PARTRIDGE, *Barnstaple.*

REPLY.—We can only imagine one of two causes for the bees persistent refusal to raise queens—*i.e.*, they have either been too long queenless, or else there is a worthless queen still in the hive. It is quite a common occurrence for old bees—long queenless—to act as above.

[1293.] *Swarms. — How should Frames Hang.*—1. Will bees swarm before queen-cells are formed, providing that the hive is very crowded with bees, but with no drones flying? 2. What are the advantages in having the frames hanging at right angles to the entrance over having them the other way? 3. What distance should the combs be from the perforated dummy in a "Wells'" hive? 4. In putting sections on a swarm that came off on May 29, and were hived in a skep, will it be necessary to have queen-excluder between skep and sections? 5. Would the old bees from a skep go into a frame-hive if I was to move the skep away after swarming and put a frame-hive in its place?—W. BARROWS, *Eskmeals.*

P.S.—Is it not very strange I cannot get my B.B.J. on a Saturday? The agent here from whom I get it says that the people who supply him say that it is not to hand in time for Saturday's parcel, and I am always in a great hurry for it. It is a grand paper.

REPLY.—1. Bees will not swarm naturally unless there are queen-cells in the hive tenanted with embryo queens. 2. Among other advantages it is considered to be better for ventilation that frames be hung at right angles to entrance. It also avoids the risk in winter of a seam of bees perishing and their dead bodies blocking up the entrance way after dropping from between the combs. 3. Half an inch. 4. It is not imperatively necessary to use excluder zinc below sections, either with skeps or frame hives. 5. You cannot make an artificial swarm of flying bees secured in the manner stated. The bees must first be driven from the skep in the usual way. Referring to difficulty in getting B.J., the paper is delivered in London to wholesale agents on Wednesday afternoon. We cannot account for your not getting it till Saturday.

[1294.] *Queen Cast Out.*—I sent you yesterday a dead queen bee, which I found near the entrance of one of my hives. She was surrounded by bees, and they were about to drop her on to the ground. She was nearly dead. I examined this hive three weeks ago, not being satisfied with what I saw outside. There was a large quantity of brood-cells filled with worker brood, a fair quantity of drone brood, both of which were sealed, but very few eggs and unsealed brood. I again examined the hive this morning. I find a smaller number of sealed worker brood, and very few eggs or young brood. Nine frames are, however, covered with bees on this beautiful morning, when probably most of the bees are out. I also found one queen-cell sealed. If the queen I sent you is an old one, I can quite understand they are superseding her; but if she is young and unfertile, I do not quite know what to think. Will you be kind enough to give your opinion? The bees are working hard this morning, and there has been no swarming. The drones are flying, and much pollen is coming in. The principal movement in the dying queen was that she kept putting out her sting.—T. McC. BLACKYETT, *Ecclefechan.*

REPLY.—Queen received presents the appearance of having been "balled." She is an adult, but we cannot even guess her age. No doubt the bees have themselves deposed her, and are raising a successor.

[1295.] *Examinations for Experts' Certificates.*—Will you kindly give me a little information about the examinations held to qualify bee-keepers as experts:—1. Is it a written or oral examination? 2. What kind of questions are set or asked, and do any of them go into the anatomy? 3. Where are such examinations held, and at what time of the year? 4. Is there a syllabus published showing what subjects are necessary for this examination, and if so, where could I get same?—ARTHUR L. ROBERTS, *Syston, June* 3.

REPLY.—1. The examination for third-class certificate consists of various manipulations with bees in skeps and in frames, together with an oral examination on the important points in bee-keeping and the general management of bees on the modern system. The second-class examination consists entirely of paper work, into which both the anatomy and physiology of the bee enters. The first-class

examinations go higher still, and are held in London at stated periods. 2. Reply to this is contained in the above. 3. Third-class exams. are held during the whole season in various parts of the country; very often in connection with bee and honey shows. 4. All particulars regarding the above may be had from Mr. J. Huckle, secretary of the B.B.K.A., King's Langley, Herts.

[1296.] *Requeening Stocks.*—I took the inclosed queen bee to-day from a colony formed last autumn from driven bees, and am curious to know if she is too old to be now efficient, or whether there is any reason apparent why her hive should have failed since the winter to have furnished its frames with brood and stores? There has been some progress and breeding, but as up to date there were only five combs of brood, I to-day united with another hive, and left two combs, on one of which were two queen cells; I added two frames of foundation, and presume the colony will now build itself up when the young queen is hatched and mated. I shall be grateful for any remarks you may make on the above. I am a beginner since last season. They wintered on seven frames, and were fed in the spring.—BURLEY BEACON.

REPLY.—Queen is old, but—if she left five combs of brood behind her—could hardly be called "worn out." Anyway, if young queen in the united stocks gets safely mated, no doubt the colony will build up well for another year. For the present season, however, all will depend on the present strength of the working force, so far as numbers go.

METEOROLOGICAL SUMMARY.

MAY, 1895.

Locality, Stoke Prior, Worcestershire.

Height above sea-level, 225 ft.

Rainfall, 0·69 in. In May, 1894, 2·49 in. fell.

Greatest fall in 24 hours, 0·40 in. on the 1st.

Rain fell on 7 days. In May, 1894, 16 days.

Max. shade temp., 79° on 30th; max. for May, 1894, 64°.

Min. temp., 28° on the 1st; min. temp. for May, 1894, 27°.

Max. shade temp. at 9 a.m., 69° on 29th.

Min. temp. at 9 a.m., 41° on 16th.

Frosty nights, 1. During May, 1894, 5.

Max. barometer, 30·35 on 2nd and 3rd.

Min. barometer, 29·5 on 18th and 19th.

Taken as a whole, May has been a very favourable month for bee-keeping; a few cold days, however, about the middle of month. No lack of food in the hives; in fact, as much as 12 lb. of honey (apple) taken from one stock in this district. Bees very busy among the raspberry canes the last week. Few swarms reported.

A few thunderstorms, but little rain fell. Rain wanted.

Barometer low at close of month.

PERCY LEIGH, *Beemount.*

Echoes from the Hives.

Southfleet, Kent, May 31.—Bees doing well. Took 50 lb. of honey from one hive on Friday, May 31.—ELVEY SMITH.

Ty Newydd, Langland, near Swansea, June 5.—Glorious bee weather here; honey coming in fast. Put on supers to-day. Three frames in body-box, full of partly sealed and unsealed honey. Clover just coming out. I saw four frame-hives on my way from Swansea to Worm's Head and Porteynon, a distance of eighteen miles, but only three of them had supers on. I did not notice nine hives, which I was told on my return were on the road I went, but I think they had some supers on, so that we expect a very good season. I wish all other bee-keepers the same. We had no rain from May 1 till May 29.—KENELM GOSS.

Bee Shows to Come.

June 24 to 28.—Royal Agricultural Society's Show at Darlington. Entries closed. Secretary, J. Huckle, King's Langley, Herts.

July 17, 18, 19.—Lincolnshire Agricultural Society's show at Grantham. Thirteen classes and liberal prizes for bees, honey, hives, and appliances. For schedules, apply to S. Upton, Sec., St. Benedict's-square, Lincoln. Entries close June 28.

July 19 and 20.—Bristol District Bee-keepers' Association. Annual Show at Knowle. Entries close July 13. Schedules from Miss Dawe, Hon. Sec., Long Ashton, Bristol.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries close July 1. Schedules from Jas. Birch, Sec., 3, Brunswick-street, Liverpool.

July 25, 26.—Kent B.K.A. annual show at Tunbridge Wells. Schedules from J. Garratt, Hon. Sec., Meopham, Kent.

August 5 (Bank Holiday).—Notts B.K.A. Annual County Show on the Sconce Hills, Newark. Eighteen classes for bees, hives, and honey, with liberal prizes. Several open classes. Entries close July 27. A. G. Pugh, hon. sec., N.B.K.A., 51, Mona-street, Beeston.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries close June 29. Schedules from Marshall Stephenson, Sec., York.

August 6 and 7.—Staffs. B.K.A., at West

Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances. Schedules, when ready, from Harold Twenty-man, Wolverhampton.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

TRADE CATALOGUES RECEIVED.

Thos. B. Blow, Welwyn, Herts. 76 pp. This is another large and profusely illustrated list of hives and bee goods of all kinds. It also includes a very full and comprehensive description of the hive-making industry, and also of bee-farming, as carried on at his own works at Welwyn, the same being profusely illustrated with process blocks from photos. At the end are also a half-dozen pages devoted to what are called "Hints on Successful Bee-management."

Jas. A. Abbott (Abbott Bros., Dublin), Merchants Quay. Mr. Jas. Abbott (late senior partner of Abbott Bros., Southall), who became sole proprietor of the Dublin branch of the firm, issues a condensed list of goods, the special feature of which is a considerable reduction in prices, which will no doubt commend it to favourable notice. The sample of "bee veils at 9d., post-free," sent to us for inspection, prove them both good and cheap.

Edmondson Bros., 10, *Dame-street, Dublin.* Messrs. Edmondson issue a condensed list of eight pages, which, however, has in it prices and particulars of all necessary requirements.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. L. (Innellan).—*Vitality of Bees' Eggs.*—Bees will always remove eggs from combs left out of the hive long enough to have become "chilled" or spoiled; they will also make away with any eggs given them in combs placed *outside* their brood-nest when breeding is going on. It is not easy to say how long they will retain their vitality when exposed, so much depends on the temperature; but it is quite certain that the egg of the bee must not be considered as analogous in this respect to that of any of the feathered tribe, as our correspondent seems to imagine.

A. HAMER (Llanarthney). — We are very pleased to note the active interest you take in promoting bee-keeping in your district. Unfortunately, however, with important shows being held in all parts of the kingdom, we could not devote space for the long notice sent of your successful and praiseworthy effort to get honey prizes offered at local cottager's show. Should an examination of candidates for third class experts' certificates be held in Carmarthen, no doubt the secretary of the B.B.K.A. will be glad to get the offer of the use of your apiary for the purpose, if conveniently situated.

H. (Bury St. Edmunds).—*Adding Supers.*—*Confining Drones to Hive.*—1. The time when a second surplus chamber will be required depends entirely on the continuance of the honey flow. If, on raising covering of present super, the upper portion of combs are sealed over a second may be set under it. 2. Drones must on no account be confined to the hive as proposed. It would inevitably lead to mischief.

BEESWING (Wetheral).—Blossom received is that of the corn-flower (*Cyanus minor*).

SARUM (Salisbury).—The appearances noted in drone sent are a frequent result of excitement, and not, as you suppose, a sign of mating.

THOS. L. SMITH (St. Asaph).—All three insects are wild bees, of the genus *Andrena*. The two larger ones belong to the *Rosea* species.

G. G. (Honiton). — *Orchards for Bees.*—A nicely situated orchard is a very suitable place in many respects for keeping bees in.

GUTHLAC (Petersfield). — Brood in comb received is "chilled," not foul. The few bees in the hive would account for it. If the stock is increasing in strength, as stated, it will no doubt be all right in a week or two.

A. R. C. N. (Bantry).—See reply to Thos. L. Smith.

T. D. (Barrow-in-Furness) and H. C. (Northants).—Combs received from above are both affected with foul brood. In the latter case, however, the disease seems only of recent origin.

H. H. WOOSNAM (Newton Abbott).—Honey received is good in colour and consistency, but is from mixed sources. There would, we think, be some apple orchards in flower in the district where it was gathered, but beyond this there is no sufficiently characteristic flavour to guide us in venturing to name the blossom it came from.

OLD SUBSCRIBER (Cumberland).—Comb is badly diseased with foul brood.

J. H. SHAW (Sheffield).—1. A piece of crushed-up comb like that sent is quite unfit for examination as to foul brood. Diligent search, however, reveals a trace of the disease, which leaves us in no doubt as to its being there. 2. The dead bee received is a queen.

MISTLEY (Essex).—The sample of super foundation is of good quality, and we can only imagine that some lubricant has been used when passing the sheet of wax through the mill, which is distasteful to the bees. We should like to know the name of maker in order to decide this point.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, TWO strong STOCKS of BEES, £2 and £1. 10s. Miss PELLATT, North Mimms, Hatfield, Herts. H 37

STRONG natural SWARMS, 10s. each, never seen foul brood. Apply, E. MIDDLEMASS, Stamford, Alnwick. H 36

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BRERETON, Pulborough, Sussex. 109

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

LACE PAPER for GLAZING SECTIONS. Three neat patterns, 100 strips, 22 inches long, 8d., post free, 500, 2s. 9d., post free. W. WOODLEY, Beedon, Newbury.

PURE BLACKS, Swarms, 5s., 10s. 6d., and 15s.; Nuclei, 5s.; Queens, 3s. 6d.; free on rail; empties returned. ALSFORD, Expert, Blandford. 139

HONEY FOR SALE. 1-lb. Sections at 9d.; Run, 7d. per lb. G. R. DOWNER, Drayton Manor, Chichester. H 53

WANTED, Natural First Swarms of Bees, in EXCHANGE for Gas Stove. Cost 50s. CUTTS, Ardsley, Barnsley. H 50

GOOD HIVES, once used, 10s.; new Sections, 2s. 3d. per 100; Frames, Foundation, and Bottles. E. BUNNEY, Swansea. H 46

HONEY SECTIONS WANTED, for cash, new. Best pale, well filled, and sealed only received. T. SMITH & CO., 17, Cambridge-street, Hyde Park, W. H 47

WANTED, OFFERS for 3 Ten-Bar-framed HIVES; one by Neighbour, two by Woodley; complete with Section Crates. Used few seasons. Good as new. FRISBY, Harting, Petersfield.

FOR SALE, Three Bar-framed Hives, a small Slinger, Crates of Sections, Feeding Bottles, &c. &c. All from Abbott's. What offers? L. C., 17, Park-road, Southborough, Tunbridge Wells. H 51

NOW READY, NATURAL SWARMS, 3½ to 4 lbs., 12s. 6d. each. Guaranteed healthy. Box and packing free. ALBERT TWINN, Apiary House, Ridgwell, Halstead, Essex. H 30

WANTED, SECTIONS and EXTRACTED HONEY. Packages lent free to Bee-keepers and Associations. Prompt cash. State lowest price, enclosing stamped envelope, to Rev. W. HANDCOCK, Hampton Hill, Middlesex.

CARBOLINE POMADE (Fourth Season).—Kills Bee-stings like magic, and prevents the horrible smarting and burning inflammation. Prevents getting stung, robbing, &c. In 1s. bottles, post free. T. HOLLIDAY, Astbury, Congleton.

FOR SALE, or EXCHANGE for Safety Bicycle, The Cambridge Hive, in 17 parts; fitted with non-swarming apparatus. Also a Swarm Catcher, W.B.C. system; all brass fittings; enamelled all over; on approval. Write, H. SEAMARK, Willingham, Cambridge. H 45

WANTED, earliest date and lowest price for Four 5-lb. lots DRIVEN BEES, with young Fertile Queens, one Italian; or would Exchange Cassell's "Old and New London" in sixty shilling parts, perfect condition. Also about Two Thousand Pipings of the small White Pink, for swarms. What offers? Mr. ATTWOOD, Turner-road, Lee, Kent, S.E.

FOR SALE, 95 SECTION CRATES (made specially to the order of a large Bee-keeper, who does not now require them). Take 21 1-lb. sections, 4¼ by 4¼ by 2, with glass at one side, movable shutter, ten dividers, complete. What offers for whole or any number? Sample sent, post free, 2s. 9d. J. IRONSIDE, 2, Penshurst-terrace, Belle Vue, West Hartlepool. H 52

Prepaid Advertisements *(Continued)*

BEES, Strong Healthy Swarms all '94 Queens, 10s. 6d. each. Swarm-boxes to be returned. ED. LONG, Cottenham, Cambs. H 11

WANTED, EXTRACTOR. EXCHANGE dozen best Electro-plated Teaspoons and two pair Sugar Tongs, or suit length Cloth. DEACON, Westbury, Wilts.

YE OLDE ENGLISHE BEE.

Fine selected English Queens, 3s. 6d. each; finest tested English Queens, 5s. each. Postage 3d. W. WOODLEY, Beedon, Newbury.

TO DEALERS.

AMERICAN SECTIONS at Liverpool, London, and Wholesale Depôt, Peterboro'. Also in America, a large Stock waiting shipment, immediate orders for which secure delivery in July. Cheap in quantity ex steamer.

W. BOXWELL, Patricksweil, Limerick. 138

BEEKEEPERS in LANCASHIRE and CHESHIRE and surrounding Districts please note that the

CENTRAL SUPPLY STORES

for all BEE REQUISITES is in LIVERPOOL at the OLD SPOT, 50, GREAT CHARLOTTE STREET. GEORGE ROSE. Why pay carriage from long distances, when you can buy as cheap and good locally, and *have your orders promptly attended to?* Catalogues gratis.

Sow now 14 varieties of Bee Flowers, price 1s. Full directions to each; easy to grow. Cash with order. Buyers of big quantities of SECTIONS, JARS, &c., please write for quotations per 1,000 and per 5 gross.

CHAPMAN'S HONEY PLANT SEED, 6d. Packet. Wholesale and Retail.

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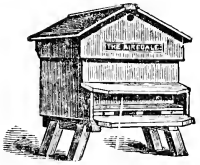

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BRITISH BEE-KEEPERS' ASSOCIATION.

MEETING AT THE "ROYAL" SHOW, DARLINGTON.

Arrangements have been made for holding a meeting of bee-keepers in the show-yard, at Darlington, on Wednesday, June 26, at 3 p.m., the Council of the Royal Agricultural Society having kindly granted the use of their tent for the purpose. At the suggestion of the Durham and Northumberland Association the subject of the need of a pamphlet on the preparation of bees for the heather harvest will be discussed. Bee-keepers desirous of being present and bringing forward subjects for discussion are requested to communicate with the secretary, John Huckle, whose address until the 27th inst., will be 26, Louisa-street, Darlington. The Council of the B.B.K.A. are anxious that the department at Darlington should be as attractive as possible. It is hoped that bee-keepers and others interested will help the Council by forwarding small parcels of cut-flowers, more especially of those from which honey is obtained. The same may be sent by parcel-post or otherwise, addressed to the secretary, Bee Department, Royal Agricultural Show Ground, Darlington. Carriage of such parcels will be paid when desired.

FRANCE.

The *Société Centrale d'Apiculture et d'Insectologie* of Paris is about to hold an exhibition in the Jardin d'Acclimatation, extending from July 7 to 31 next, and in which bee-keeping will be largely represented. It is hoped that everything connected with the production of honey will be exhibited, all sorts of hives and appliances, also the products of bee-keeping, such as honey, wax, hydromel, eau-de-vie, cakes, &c., as well as articles in which honey or wax form an ingredient; also all that refers to the natural history of the bee. Exhibitors from abroad are invited, as are also collective exhibitions of societies.

Those who wish to take part in this exhibition must make application to the secretary, 167, Rue Lecourbe, Paris, by June 20 next, who will send schedules, programmes, and forms of application. Exhibits must be forwarded by July 1, and will be staged the day previous to the exhibition.

The following letter has been addressed to Mr. Cowan on the subject by the president of the society:—

"Mr. Chairman B.B.K.A.—I have the honour to inform you that an exhibition, organised by the Société d'Apiculture et d'Insectologie, of which I have the honour of being President, will take place in the Jardin d'Acclimatation, from July 7 to 31 next.

"The sincerest wish of all members of this society would be to see those of yours taking part in this exhibition by showing some of your publications, and by making a collective exhibition.

"The attention which we hope this show will attract would thus be increased, and we should have another proof of the interest which you take in apiculture. A Congress of Bee-keepers and Entomologists will take place on July 18. We should be pleased to see the foreign societies taking part in it. We should also like to hear from them what questions they would like to have discussed.

"Awaiting a favourable reply, believe me, Mr. Chairman, &c.,—*The President of the Society, and late Minister of Public Works*, DE HEREDIA."

The council of the society has also invited Mr. T. W. Cowan to act as one of the judges.

We hope those who are able to exhibit will write for schedules without delay, and we are quite sure those who may visit the exhibition during their passage through Paris will be well repaid for the trouble, as the honey show is generally good.

HONEY SHOW AT HALIFAX.

INCREASE IN PRIZES.

Referring to the announcement regarding the Bee, Honey, and Bee appliances department of the above show, the Rev. R. F. Lamb writes to say the Yorkshire Agricultural Society, "as a departure from their custom of offering £18 in driblets in twelve classes, offer this year extra valuable prizes amounting to £24 in six classes. The prizes for the two grand classes 'collection of appliances' and 'best display of honey' are £5, £3, and £1 (not £3, £2, and £1, as stated in your issue of May 23), for three best exhibits in each class. The conditions in the honey trophy class are that competitors be individuals or members of the same District or County Associations, and they have the privilege of selling their honey on the last day of the show."—Entries close, June 29.

HANTS AND ISLE OF WIGHT B.K.A.

BOURNEMOUTH SHOW.

What proved to be one of the most important Exhibitions ever held in the South of England, took place at Bournemouth on the 11th to the 14th inst., and bee-keepers from all parts of the country were unanimous in their expressions of congratulation at the immense interest and enthusiasm of the vast crowds attending the Honey Show and Lecture Tent each day.

The number of people passing the turnstiles

into the show was, we believe, a "record number," something like 11,000 paying on the half-crown day, and 20,000 on the first shilling day. And of this number it is no exaggeration to say the majority spent more or less time in the Bee Department, evincing an amount of interest that even an old experienced hand admitted he had never before seen surpassed. Indeed, the three bee-appliance dealers had a busy time selling the stocks they had bought, and booking forward orders. The sale of honey, too, was brisk, and satisfactory in price.

Owing to the good season, there was an unusually fine and large display of honey in the several classes, and the judges, Dr. Andrews, of Basingstoke, Dr. Blake, of Westbourne, Rev. W. E. Medlicott (appliances only), and Mr. E. F. Maberly, of Christchurch, had a very long morning's work in making their awards.

ROYAL VISIT TO THE BEE TENT.

The bee tent, as indeed the whole department for bees and honey, was in charge of Mr. E. H. Bellairs, who is well known amongst bee-men north and south, and at stated intervals he delivered popular lectures to immense audiences. On Thursday H.R.H. Prince Henry of Battenberg (President of the R.C.A.S.) visited the show, and spent the best part of half an hour in the bee tent, listening attentively to the lecturer, who delighted the crowd by telling them that this was not the first time Prince Henry had stood there, but that with his bride, the Princess Beatrice, who was the President of the Hants B.K.A. from its birth. The Prince was greatly interested, and, indeed, expressed his appreciation in such a way that it was evidently *the* event in the whole show which most attracted him. In addition to the visit of the Prince many local and county magnates attended, and the popularity of bee-keeping and its support by the Hants County Council was assured. On Wednesday and Thursday the audiences in the tent were so large that lecturing went on almost continuously from twelve till five.

PRIZE LIST.

Twelve 1-*lb. Sections.*—1st, W. Woodley; 2nd, E. C. R. White; 3rd, H. W. Seymour.

Twelve lb. Extracted Honey.—1st, H. W. Seymour; 2nd, A. Broom; 3rd, D. Aston.

Collection of Bee Appliances.—1st, Lanaway & Sons; 2nd, C. Overton; 3rd, J. S. Greenhill (special).

Best Frame Hive.—1st, Lanaway & Sons; 2nd and 3rd, C. Overton.

Cottager's Frame Hive.—1st, Lanaway & Sons; 2nd and 3rd, C. Overton.

Honey Extractor.—1st, C. Overton; 2nd, J. S. Greenhill; 3rd, Lanaway & Sons.

Section Rack.—1st, Lanaway & Sons; 2nd, C. Overton.

Skep with Section Rack.—1st, not awarded; 2nd, C. Overton.

New Invention in Bee Appliances.—G. W. Hole, Bronze Medal for "Self-Hiver." Certificates, H. Rowell, for "Uncapping Machine," and W. Tilley for "Quilt."

MEMBERS ONLY.

Twelve 1-*lb. Sections.*—1st, T. Giles; 2nd Miss Robinson; 3rd, Rev. A. Headley.

Six 1-*lb. Sections.*—1st, E. Ainsley; 2nd, H. Rowell; 3rd, Rev. A. Headley.

Six 1-*lb. Sections* (*Cottagers only*).—1st, T. Giles; 2nd, H. Rowell; 3rd, E. Ainsley.

Twenty-four lb. Granulated Honey.—1st, not awarded; 2nd, A. Broom.

Twelve lb. Extracted Honey.—1st, H. Rowell; 2nd, Miss Robinson; 3rd, Wm. Drew.

Twelve lb. Extracted Honey (*Cottagers only*).—1st, D. Logan; 2nd, H. Rowell; 3rd, T. Giles.

Bees Wax.—1st, A. Broom; 2nd, Wm. Burgess.

Hive made by Amateur.—1st, H. Rowell; 2nd, D. Logan.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2093.] The weather of 1895 is nearly a replica of 1893. The honey harvest has arrived earlier than even the most hopeful amongst us expected. The fields have been resplendent in wealth of bloom, and bees have been busy gathering nectar in abundance; what more can we want? Well, I am fain to say there are two important items still wanting for a continuance of the good time, and that is rain to increase the blossom of the aftermath, and bees to gather the honey when welling up in the nectaries of the flowers. In my own apiaries I have no lack of bees, never before have we had so many swarms in May, or so much honey in the store-room and in the hives by June 15, so that with hives teeming with willing workers, all we want is a good, soaking rain, and suitable weather afterwards. But, from what I hear, I fear that my neighbours are not so well placed as regards bees—some have not had a single swarm from apiaries of close on twenty hives.

How is this? Why, friends, I will tell you. When the fortnight's bee-weather came early last month they neglected to increase the size of brood nest by supers or by extra frames of comb or foundation. The consequence was the brood nest was turned into a honey store to the exclusion of the queen, and consequently the number of workers remain practically stationary, instead of increasing to swarming point. They were thus not ready to take advantage of the honey flow or increase the number of stocks by swarming.

In a previous "Note" I referred to bees objecting to super foundation in sections, that I had received some correspondence on the subject with other bee-keepers, and in my replies I could only say that I expected it was the lubricant used in its manufacture that was distasteful to the bees. I have had cases myself of quite empty sections in the centre of otherwise full crates—*i.e.*, sections interspersed with the foundation not touched, while the other sections were perfectly sealed in the same crate. How is this to be accounted for? One would suppose that every sheet of foundation was equal in the same parcel, dipped from same tank of wax, at the same temperature, and the same lubricant used, also the same machine used in its manufacture. Where can the difference come in? I can only conjecture that all sheets of wax from the dipping tank are not the same thickness, and that with a slight lowering of the temperature of the workroom, the thicker sheets of wax in passing through the machine are pressed so hard, that the bees are not able to manipulate it, therefore object to build on to the foundation. I have known and heard of cases of bees building to the dividers and using the foundation as divider in the centre of the section. This matter ought to receive attention from our foundation makers as well as from bee-keepers, who are the principal losers by the bees refusing to work out the foundation, as in a large apiary, like my own, for instance, which is run for comb honey, a few sections in a number of crates means a very considerable loss to the bee-keeper.—W. Woodley, *Beedon, Newbury.*

BEE JOTTINGS

FROM HIGHWAYS AND BY-PATHS.

[2094.] *Swarms*—On casting about for a subject for my "jottings" this week, your reference to swarms in "Useful Hints" of last issue (p. 231) came most welcome. The advice what to do where top swarms come off "just when the honey is coming in fast," is, to my mind, right; anyway, it gave me the cue I wanted. Most people having swarms would, no doubt, hive them in the orthodox manner either on sheets of foundation or on "starters." But I wonder how many give a thought as to what takes place within the hive when the swarm is housed, or have taken the trouble to ascertain how the new tenants adapt themselves to their change of home? Bees before swarming take especial care—like all wise emigrants—to start provided with every necessary for the formation of a new colony. They help themselves freely from the stores of their own gathering before handing over the "cupboard" to the children, carrying off provisions enough to last them several days under adverse circumstances; and, if their surroundings are favourable, transforming the food into furniture for their new home.

Take a swarm just being hived on "starters" in a frame-hive as an illustration. The single bee—among the many thousands thrown upon the ground—in the greatest hurry to enter is the queen. No sooner is the note given of a new home found than she becomes agitated, and, scrambling over her children, "mother" makes straight for the entrance. Once she is within, the demeanour of the bees changes; the "hum" goes round, the gladsome vibration of their wings begin just as if "dusting down" the new dwelling was in progress, and they seem to say, "Keep it up; mother's safe." Could one look inside a little later, we should see the work of comb construction already commenced; long festoons of bees stretched from floor to roof increasing in number and thickness as the work proceeds. In the centre, or may be slightly on one side of the hive, hangs the bulk of the bees in a solid cluster, from which the festoons spring, forming a base of operations and of communication, extending in all directions and to all parts of the hive. Meantime, where is the queen? She has not yet entered the cluster, the centre of which is perhaps too unpleasantly warm at present. She will be found walking round the outside of the cluster, anxiously waiting for the first bit of completed comb to commence *her* part of the business. For the method by which the bees cling to one another when forming these festoons, with the mode of secreting the wax, and the formation of the cells, I refer readers to the excellent description given in Cowan's "Honey Bee," confining myself to a brief account of the method adopted by the bees in maintaining the temperature necessary for the production and elaboration of the wax of which the combs are formed. The bees forming the inner portion of the cluster above referred to are the wax-workers, or comb-builders, the outer layers of bees for the time simply fulfilling the purpose of maintaining the necessarily high temperature required for carrying on the labours upon which the said comb-builders are engaged. In this way, when the excitement and consequent heat of the hiving operations have abated, the usefulness of this outer covering of bees is apparent—especially if the nights are cold—for, concurrently with the task of maintaining the temperature, they are themselves distilling within their own bodies wax from the honey carried off from the parent hive. In a few hours may be seen exuding

from segments on the under side of the abdomen tiny flakes of wax. The outer layers of bees are now ready to change places with those within the cluster when the latter have exhausted their material. And so the furnishing of the new home goes on. Next morning the first batch of comb builders will be busily hurrying forth as foragers, while most probably the queen will have deposited eggs in the combs just built. The utility of the hanging festoons or ladders of bees is now seen, forming as they do a direct communication from the hive entrance to the "base of operations," and so soon as a few inches of comb is completed, a few eggs laid therein, and a little honey stored, the prosperity of the new colony is in a fair way of being assured. In very hot weather the importance of this outer clustering is, of course, not so noticeable, and the work proceeds more rapidly, but if weather be cold and inclement the wisdom of this outer covering for what may be called the "workshop" is at once perceptible. The rapidity with which whole combs are completed and filled with brood and stores in good weather is marvellous, and must be seen and studied in order to fully realise the wonderful economy exercised. Not a single particle of food or wax is wasted, not a moment of time lost, or space left unutilised, till the object the bees have in view, viz., the formation of a new home, is attained.

Separating Swarms.—R. D. Wallace, in the *American Bee Journal*, says :—"When two or three swarms cluster together, if for three swarms, tier up three hives with an entrance to each on a stand ; raise the bottom hive an inch from the board to give bees room to go in ; stop entrances to the two upper ones ; shake bees in front of hives, and let them settle for half an hour ; then take top hive and put it on a stand, put the second on another, and let the bottom one remain, and your three swarms and queens are separated." He adds :—"I have tried this plan three seasons successfully," but "doubts whether a greater number would separate."

Queens from the Egg ?—Charles Norman, in *Bee-Keepers' Review* (American), has an idea of his own that queens are the best when raised from the egg. He says :—"Queen larvæ but a day old are larger than worker larvæ of the same age." I am afraid our friend "Charley over the water" has got on the wrong scent this time. I should like to ask how did he recognise queen larvæ in worker cells from the other grubs ? "Jumped it," I suppose.

Finding the Queen.—Dr. C. C. Miller says : —"Generally there isn't much trouble in finding a queen, but it can be made a very difficult job." The doctor "touches the spot" in saying this. He further explains, "If he wanted to get a colony in shape, so that he could *not* find the queen, he would "give the bees a lot of smoke, jar the combs, and handle them a bit roughly." If, on the other hand, he wanted to find her, he says :—"I should handle them gently, giving only a little smoke, and avoid setting them running." How often do we hear it said in our own journal that readers find it difficult, or in some cases impossible to find the queen, yet, in my opinion, it is a simple matter enough, if we go the right way to work and the advice given above is followed. I think no greater mistake is ever made in manipulating bees than to use the smoker too freely. There is no necessity to half suffocate bees with dense volumes of smoke in the way some people do. Only enough smoke should be used to keep the bees quiet. In this respect the carbolic cloth possesses certain advantages over the smoker, as its quantity and quality is stable, and not at the will of often irritated bee-keepers, who, to my knowledge, in failing to effect the purposes they wished, and because of the bees' opposition, have taken up the smoker to "show them who was master," and have so dosed them with smoke that it was no wonder the bees were cross. One bee-keeper I came across had quite a collection of smokers, and proceeded to charge the largest, "warranted to give an immense volume of smoke." I selected the smallest one, and, giving the bees just a couple of puffs across the top of the frames, transferred them to a clean hive, found the queen, got no stings, and no occasion even to pull the veil down. "Little smoke, few stings," would be a good maxim for many apiaries.—H. W. Brice, *Thornton Heath.*

OLD BOOKS AND FOUL BROOD.

[2095.] The late Rev. W. C. Cotton, M.A., in the 1842 edition of "My Bee Book," gives a list of about 125 books on bees, published between 1539 and 1840, but, so far as I can see there is no mention of foul brood in any of them. Can you, or any of your readers say who was the first to write on the subject ?

J. De Gelieu's book "The Bee Preserver," translated from the French and printed in Edinburgh in 1829, is not mentioned in the above-named list, but Gelieu in his book says (chapter xxv.) :—"Bees have no real disease," and he states he was occupied with bees 64 years.—W. Lees McClure, *Lytham, Lancs.*

[Aristotle and also Virgil mentioned what some think is foul brood, but we are rather inclined to think it is dysentery they allude to. Schirach described the disease, and advocated the hunger cure in 1769, and Della-Rocca in 1790. There are many other writers besides De Gelieu who knew nothing about foul brood, and who supposed bees had no real disease, and although bees died out, the losses were attributed to epidemics and other causes. It is only since the introduction of movable comb hives, that a real knowledge of the disease has been obtained.—Eds.]

THE BADCOCK FUND.

[2096.] Referring to the notice on page 132 of your intention to close the above this week, will you allow me space to invite attention to the very moderate response so far made to what I regard as an exceptionally deserving case for the exercise of a little fraternal liberality? I am not without hope that many bee-keepers—especially the "men of Kent," for whom we learn that Mr. Badcock worked so disinterestedly and well—have inadvertently overlooked the "appeal" and its pathetic surroundings, briefly detailed on page 162 of B.J. for April 25, and by your correspondent, "A. M. I.," in that of May 9 (p. 183). If you would postpone closing the fund for another week, at the request of one who, though personally unknown to the late Mr. Badcock, has been impressed with the testimony to his worthiness recorded in your pages, I feel sure that some who read these lines will welcome the opportunity for repairing an oversight on their part, and that a small portion of the stream of good fortune now flowing into the pockets of bee-keepers—through a bountiful honey season—will find its way into your subscription list.—H. W. BRICE, *Thornton Heath.*

[We willingly accede to the request of our correspondent that the list shall not be closed for another week.—EDS.]

NON-SWARMING SYSTEM.

[2097.] I think your correspondent in B.B.J. of June 13 (2091, page 234), condemns Mr. Simmins' system on incomplete grounds and somewhat hastily. He appears to have left the starter frames unlooked at for three weeks, by which time more work was done in them than should have been allowed. He should also, I think, have taken steps to get his bees into the super at once, possibly not using the lower chamber of starter frames until the work in the supers had been fairly begun. Though the hives I have at present are not fitted with a lower chamber, I have tried Mr. Simmins' principle by putting five starter frames in front of the brood nest, over which is a super of sections. Work goes on well in the sections, and I have at interva's taken away from the front frames very useful pieces of unfinished drone and worker comb which have come in for use in sections. In common with your correspondent I have found a tendency in the bees to build drone comb, but I don't see that this is objectionable for the purpose in view.—*Burley Beacon, June* 16.

[2098.] You kindly inserted some remarks of mine upon this subject last week. Perhaps the sequel of the story may be interesting. Yesterday, June 16, the hive sent out an enormous swarm, and on examination I found over a dozen queen cells in it, showing that every preparation had been going on for this operation before the "non-swarming chamber" was reversed on June 8. Am I right? and can you, or anyone, explain the failure of this system? I put the "non-swarming chamber" below the hive—a very strong one—on twelve frames of brood on May 22. I may add that after a very late spring and a trying winter hives which have been well attended to have developed wonderfully, and are gathering very fast.—CHAS. E. COCKIN, *Elton, Hull, June* 17.

THE SEASON IN NORTHANTS.

[2099.] Sitting in the old arbour in my garden for a few minutes, my ears gratified by the merry hum of thousands of bees working from my seven stocks (two double and five singles), and at the same time looking through the B.B.J. for June 13, I noticed how the honey flow was on in different places, and resolved to send a brief report of my bee-season so far as it has gone. Well, the weather is splendid; white clover just coming out in full bloom. I have had four swarms and one cast; first swarm May 26 (sold) second swarm May 30 (put into new hive), third—a cast—June 13 (queen cells cut out and returned), fourth and fifth, two swarms June 13, returned. All now working splendidly. I have, up to date, 14th inst., taken 300 lb. of honey from my seven stocks, and my best double stock has given 111 lb. of this lot. I am running the single stocks against the doubles again this season, and doing that which I think best for each for the purpose of testing the two singles against the one double. And I am of opinion already that the doubles will win the race. However, at the close of the season, with your approval, I shall send you my short report as usual. I am keeping the quantities taken from each hive separate.—WM. TUSTAIN, *Farthinghoe Station, Northants, June* 15.

BEES AND CONFECTIONERY WORKS.

[2100.] As an amateur bee-keeper interested in bees, I would like your opinion on the following:—

My employment is at a large confectionery factory (almost exclusively sugar work), and during the summer, between spring flowers and clover season, also after the clover is done (there is no heather near for miles), parts of the factory are literally swarmed with bees, attracted, no doubt, by the boiling of sugar continually going on. In June last year, the foreman of one of the departments told me that he put out quite a bucketful of dead bees almost every morning after a fine day. The bees get in principally through the roof ventilators, and the great bulk of them never find their way out again. All the swing-

ventilators in windows are taken out at such times, and frames covered with muslin are fixed to secure ventilation and keep the bees out, but the roof-ventilators cannot be managed in this way. 1. Can any way be suggested to keep the bees out? 2. Can the bees that get in and cannot get out be utilised in any way by bee-keepers? I could secure fair quantities of the bees alive and take them to my own garden where I have my bees, about four miles away. 3. Would it be worth while utilising the bees in this way?—GREAT CORBY, *June* 12.

[1. Since the unfortunate maurauding bees when inside the works are a source of trouble and, no doubt, of loss, it might be worth while to provide some sort of wire-cloth covering which would, while ensuring ventilation, keep the bees out. Not being conversant with the construction of the roof-ventilators, we cannot even suggest *how*, but it is surely practicable. 2. If the bees received no physical damage or serious bodily injury, they might be saved and joined to your stocks located four miles away. 3. All would depend on whether surplus bees were wanted at the time the sugar stealers were available. You would be able to judge better than any outsider whether the condition in which the bees are when captured was such as to make them worth preserving. —ED.]

A CO-OPERATIVE HIVE.

SOME QUESTIONS ABOUT QUEEN-REARING.

(*Concluded from page* 234.)

If now—as is contended by many naturalists—parents are subjected to certain external conditions at the time of parturition, then queens so produced would have a swarming tendency impressed upon them, and from that point of view would be inferior to queens reared from "worker eggs," if I may make use of the expression reared in a queenless stock; but if the bees merely make cells around ordinary worker larvæ or eggs, as I understand is Mr. Brice's contention—then I do not see that queens reared naturally would have a greater tendency to produce swarming bees than those raised artificially. At the risk of being tedious, I am going a little further into the origin of characteristics of individuals as taught by some of our great naturalists, or, at least, as I understand their views. Let us take the views of, say, Lamarck, Darwin, and Weismann on this subject, and I will take a simple illustration—say the long neck of the giraffe. Lamarck would say that this was produced by the animals stretching up to reach the branches of trees, their necks in consequence being stretched, and thereby their offspring, when born, would already have a neck somewhat lengthened, and so on increasing through generations. Darwin, while admitting such a process as a possible factor, would assign to it a comparatively unimportant place, and put down natural selection as the main factor, along with a tendency to variation, thus:—Some giraffes would be born with long, others with short, necks; the long-necked ones get food, and reproduce their kind, the short-necked ones die out, and hence we gradually get a long-necked race.

Weismann would contend—though I believe his views are now somewhat modified—that Lamarck's factor does not come in at all; that when the young are born the germs of their produce being already formed within them, no external conditions to which the parent may be subjected can produce any corresponding change in the offspring. This has always seemed to me a rather big assumption, still, it is, I believe, the view held by many eminent naturalists. And now—to leave theories—a word or two on the season here. My bees, like most people's I suppose, were very backward this spring, but they have picked up wonderfully lately. My best stock is now on seventeen frames, spaced 1½ from centre to centre, and densely packed with brood; it has a 24-lb. super nearly completed, and I am about to place an empty one underneath to prevent swarming if possible. My other stocks are also now well at work in the supers, and there is prospect of a good yield, although this is not a good locality and the bees can only forage on the north, the other sides being in the town. I must apologise for this lengthy article—perhaps it may require a liberal use of the editorial scissors—and yet before closing I should like to bring up one more point. It seems that, willy-nilly, we are to have inspectors for our bees; now, without going into the foul-brood question, I would merely suggest that the said inspectors should be subject to certain regulations—subject to forfeiting their posts if infringed—*e.g.*, under no condition should an inspector be permitted to visit an apiary which he does not know to be infected with foul brood, on the same day after visiting one so infected. Let him visit all diseased apiaries at one time by themselves, and not go near others until thoroughly disinfected, unless he knows them to be in same condition. I think, too, that when proposing a visit to an apiary where the disease is not known to exist, he should suit, as much as possible, the convenience of the owner, so that, if wished, the latter might do all the manipulating, and he could do the inspecting, thereby lessening risk of infection. It would even be possible to bring the combs one by one to be examined through a window if the light were suitably arranged. Of course, when the disease is found to exist there would not be any need for so much precaution. I have only had one case of foul brood at all, and that was in Somersetshire many years ago, in a straw skep. As I intended to go abroad next week for the summer, and had thirty other hives at hand, I decided the safest plan was to sulphur the bees at night

and burn the whole concern, although it was a strong skep. I have never seen anything more of the disease since; although I met several bee-keepers in Germany who told me they were very much troubled with it. Many of them, cottagers and so forth, did not seem to have any idea of the true nature of the disease, but put it down to a wet season, &c. This somewhat amused one who is so frequently told how far behind our Continental neighbours we are in popular education.—M. C. CLUTTERBUCK.

Queries and Replies.

[1297.] "*Lazy*" *Bees and Swarms.* — *Bee Stings for Rheumatism.*—1. Into one compartment of a "Wells" hive this week I put a strong swarm on wired foundation. They started work next day, having taken down 2 lb. syrup the night before. In the other half of the hive I had a pretty strong stock, but all spring they were sluggish and lazy until the new arrival in the next compartment, and now they are working "like niggers." Is this usual, and if so, is it due to pride, prejudice, or emulation? 2. Why do humble bees patronise flowers (particularly those of N. order, *Labiatæ* and *Scrophulariaceæ*), which the honey hive bee does not frequently visit? 3. The next case of very painful chronic rheumatism I have to treat, I propose using bee-stings from three bees. How may I best apply them, say, to the knee-joint? 4. Does the sting contain anything besides formic acid? 5. Should cracked hive tops be first painted before cracks are filled in, and would you putty or white-lead the cracks? —B. WALKER, *Kirkby-Stephen, June* 17.

REPLY.—1. "Emulation," we hope, was the moving cause, induced by the buzz of active work going on "next door." By the way, Mr. Wells will be claiming this as one more "point" in favour of his hive. 2. Different varieties of bees select flowers wherein the position of the nectary is fitted to the organs with which the insect gathers its food. Thus, the humble bee works on many flowers whose nectaries are entirely beyond the reach of the tongue of the hive-bee. 3. The sting must be inserted by the bee itself, and the operation managed thus:—Take a worker bee gently by its wings, and place it—in natural standing position—on the surface of the knee-joint; a little downward pressure will cause the bee to at once insert its sting; hold it so for a few seconds, to give time for the injection of a full supply of the sting contents; then let the bee release itself, minus its sting. Repeat the operation with as many bees as required. A practical bee-man would, without any hesitation, illustrate the *modus* on himself, so there is nothing difficult about it. 4. The sting-poison is a secretion of the blood of the bee, formic acid being the active agent. 5. Give a coat of paint before using the putty, or else fill up cracks with plenty of white-lead, before the painting.

[1298.] *Dealing with Swarms.*—I hived two swarms on June 5, each on six frames of foundation, and gave each half a pint of syrup for four days. On examination I find the combs drawn out and stocked with syrup or honey, I don't know which, probably the former. 1. Did I give the bees too much food? 2. I cannot see any eggs in the cells, nor are any yet capped over. Why is this? The queens seem all right, but do not appear to be laying. 3. Should I extract the syrup (or honey) from any of the combs? 4. What is the best time of day for examination of the combs—when the bees are flying, or when at rest in the evening? 5. I use carbolic acid solution for driving the bees from the top of the combs, but though it makes them run down from the top, it does not quiet them. How long should I leave the saturated cloth on the top bars before examination?—H. E. C., *Torquay, June* 14.

REPLY.—1. If honey is plentiful in the fields and weather fine, feeding swarms is quite unnecessary, as it apparently was in your case. In bad weather, however, a half-pint of syrup daily for four days is not too much for a newly-hived swarm. 2. If they are "top swarms," headed by the parent queens of the swarmed hives, eggs should certainly be found in the newly drawn-out combs. This point needs further explanation on your part. 3. On no account. To attempt extracting the contents of combs just built would probably ruin them, and for no definite purpose. 4. The "best time" is when the bulk of the bees are abroad honey gathering. 5. About one minute. It is well, however, to have the smoker at hand in addition to the "cloth" when any trouble is experienced in manipulating. In fact, with bees viciously inclined the smoker is far more effective and useful than the carbolised cloth.

[1299.] *Managing Supered Stocks.*—Reply to following queries will oblige. 1. A strong stock was supered with rack of twenty-one sections (partly drawn out) on May 28. On June 7, this was found two-thirds full, and a second one placed under. June 16, second one half full, raised this, and placed third rack under. Sealing has commenced in top crate. Not wanting any increase of stocks, would it be safe to leave hive as at present until top crate is ready for removal, or should a fourth rack be placed under third one. Honey flow ceases about end of July? 2. In securing early sections, is it safe or advisable to allow first crate to be finished, and then giving another immediately? 3. In taking sections singlehanded, to prevent bees unsealing same

I propose raising on small wedges overnight and leaving carbolised or very thin quilt on, and removing crate in early morning. I have guide-book, but should be pleased to know if there is any better way to remove sections than therein stated? 4. If stock swarms, I purpose taking out all frames containing brood, cutting out queen cells, fill up with frames of foundation and returning swarm, placing brood in doubling box on top with excluder zinc between. Should I remove drone larvæ when doing this?—J. R. W. T., *Eastney, June* 17.

REPLY.—1. We should give no more surplus room till top sections are ready for removal. An opportunity will then offer for examining lower racks and of judging if a further addition is desirable. 2. If early sections are specially wanted one rack only should be used, and the finished sections removed as ready. 3. Using the super-clearer does away with all the trouble proposed to be taken. 4. We should place no excluder between the added lower body-box and present brood-chamber under the circumstances stated.

[1300.] *Uniting Weak Stocks—Imprisoning Drones.*—On June 8 I united two weak stocks, and put a divider of excluder zinc between them, thus having two queens to one hive but only one entrance. In the further compartment from the entrance I noticed there was a quantity of drone brood which has since hatched out, and consequently these drones are imprisoned in the back part of the hive. 1. Ought I to take the queen-excluding zinc away, liberate the drones, and chance the queens fighting it out? 2. Will the drones do any harm locked up in the back part of the hive? There is plenty of brood each side of the queen-excluding divider.—A. C. S., *Croydon, June* 16.

REPLY.—1. Yes, the present state of things would never work. 2. The drones should be liberated as early as convenient.

[1301.] *Using Suspected Honey.*—I thank you for note of yesterday. Might I further ask whether honey, in sections and in frames for extracting, *in supers only* (excluding the brood-nest, all the combs of which would be destroyed in their entirety), is perfectly fit for use in case I find others of my stocks more or less tainted with foul brood? I have looked at some more of my hives, and, although I can find no trace of foul brood, there is not, as I have said, the usual "go" in the bees, although many of the surplus chambers have already as much as 20 to 30 lb. of stored and sealed honey in them. It is concerning this last-named that I ask, in case I find more instances of disease in the brood below.—M. G. F., *Cheltenham, June* 13.

REPLY.—Excepting for use as bee-food, the honey referred to is perfectly good for all other purposes. The fact of the stocks (not yet examined) having already stored 30 lb. of surplus is also a hopeful augury that things will not be so bad as our correspondent fears.

[1302.] *Ownership of Stray Swarms.*—Please to inform me through your valuable journal if I can recover by an action at law a swarm of bees found and hived by me as follows. A friend told me of a swarm of bees being clustered in a hedge in a certain wood, and on the following morning I hived the same, and placed the hive on a public road. At night I sent my cousin for the bees, but they were gone—hive, cloth covering, and all. The man through whose land the road passes through had carried off the lot. He has since brought back the cloth and an old hive in exchange for mine, but I have refused to take his old hive in. Do you consider I have a legal claim to the bees? The bees in question are Ligurians, and had been on the hedge for two days before I hived them.—F. G. DAVEY, *Legbourne, Louth, June* 17.

REPLY.—There seems very good grounds for supposing that you would succeed in recovering value of bees carried off, and, in any case, the value of your hive in which they had been hived. The fact of the swarm remaining unclaimed for two days would render the bees *feræ naturæ*, and as such, the property of whoever captures them. If proceedings for recovery of the value of the swarm involved anything beyond a County Court summons, we should advise consulting a solicitor as to the legal aspect of the case, but it would be worth the effort when the cost of proceedings are but trifling.

[1303.] *Canary Seed as a Bee Plant.*—Would you kindly tell me whether the common canary seed is of any use to bees? I have about 30 acres of it near me, but I cannot find out more about it than that it comes into flower in July, and belongs to the teasel tribe. —G. H. S., *New Romney.*

REPLY.—We have no personal knowledge of the above as a honey-producing plant. Perhaps some reader can tell something of it, for the information of our correspondent.

Bee Shows to Come.

June 24 to 28.—Royal Agricultural Society's Show at Darlington. Entries closed. Secretary, J. Huckle, King's Langley, Herts.

July 3.—Hunts B.K.A. Annual show at St. Ives. *Open class* for Three Sections. Prizes £3. 10s. Schedules from C. N. White, Somersham, Hunts.

July 17, 18, 19.—Lincolnshire Agricultural Society's show at Grantham. Thirteen classes and liberal prizes for bees, honey, hives, and appliances. For schedules, apply to S. Upton, Sec., St. Benedict's-square, Lincoln. Entries close June 28.

July 19 and 20.—Bristol District Bee-keepers' Association. Annual Show at Knowle. Entries close July 13. Schedules from Miss Dawe, Hon. Sec., Long Ashton, Bristol.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries close July 1. Schedules from Jas. Birch, Sec., 3, Brunswick-street, Liverpool.

July 25, 26.—Kent B.K.A. annual show (in connection with the Tunbridge Wells and South-Eastern Counties Agricultural Society), at Tunbridge Wells. Schedules from J. Garratt, Hon. Sec., Meopham, Kent.

August 5 (Bank Holiday).—Notts B.K.A. Annual County Show on the Sconce Hills, Newark. Eighteen classes for bees, hives, and honey, with liberal prizes. Several open classes. Entries close July 27. A. G. Pugh, hon. sec., N.B.K.A., 51, Mona-street, Beeston.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries close June 29. Schedules from Marshall Stephenson, Sec., York.

August 6 and 7.—Staffs. B.K.A., at West Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances. Schedules, when ready, from Harold Twenty-man, Wolverhampton.

August 15.—Goole and District Agricultural Society. Annual show at Goole. Five open classes for bees and honey. Entries close August 8. J. Luddington and H. S. White, secretaries.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec, Cattle Market, Derby.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. G. G. (Loughborough).—*Foul Brood in "Wells" Hive.*—Comb is affected with foul brood. We advise immediate removal and destruction of all the infected combs from the diseased compartment of the hive. If the bees are worth saving, keep them twenty-four hours in an old box or skep; then return them to the healthy portion of the hive, and keep the other compartment shut off with a solid dummy until it can be disinfected.

R. C. Ward (Darlington).—*Protectors for Broad-shouldered Frames.*—There would be no demand for the device sufficient to warrant its being put on the market; besides, the price would exceed that of the frames themselves. A visit to the "Royal" show next week, and inspection of the exhibits shown, would, we think, convince our correspondent of the correctness of our view regarding his "invention."

Anxious (Essex).—Nos. 2 and 15 are affected with foul brood. In 10 and 12 the brood is "chilled," not foul.

J. Harkness (Annan).—Insect is a wild bee of the *Andrena* species, common in this country.

Beeise (Grayshott).—We cannot give price of wire cloth for honey press, but anyone who makes sieves or riddles would no doubt supply it.

G. N. (Newport).—The stock from which comb sent was cut is affected with foul brood. Deal with it as directed on page 221 of our issue for June 6.

Sarum.—A case of foul brood.

J. McGibbon (Luss, N.B.).—There is nothing worse than "chilled" brood in comb received. The queen is evidently old and worn out, as shown by drones being raised in worker cells.

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Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

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PURE BLACKS, Swarms, 5s., 10s. 6d., and 15s.; Nuclei, 5s.; Queens, 3s. 6d.; free on rail; empties returned. Alsford, Expert, Blandford. 139

WANTED, SWARMS. EXCHANGE First-class Black Rosecomb Bantams and Pedigree Homing Pigeons, ready for training. Birchall, Kingsley, Maidstone.

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Prepaid Advertisements *(Continued)*

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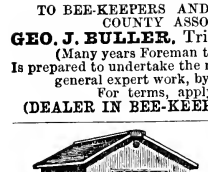

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An OLD BEE-KEEPER'S Testimony:—"With the valve added, your little Smoker is perfect." *Post free 2s.*
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NOTICE.

In reply to letters from Customers, asking if I shall be exhibiting at the "Royal" Show, with the view of buying my goods there, I regret that pressure of trade prevents me from showing. I will, however, send all goods over £1. 10s. in value *carriage free* to end of July.

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NEW REMEDY FOR FOUL BROOD.

In view of the disastrous spread of Foul Brood—especially in certain districts—I beg to announce that I have just brought to a successful conclusion a long series of experiments with a new agent, which I have found to be an absolute and simple CURE for this disease in all its stages—the first remedy that will destroy the spores, and at the same time be harmless to the Bees.

Half-pint Bottles, 2s. 6d. Pint Bottles, 4s.
With full Instructions.

COMB HONEY IN SECTIONS.

During the past winter I have purchased between two and three tons of the above. It has been bought indiscriminately from the Bee-Keepers of Great Britain and Ireland. I hope to require five tons during the coming autumn and winter, and shall purchase by preference from those Bee-Keepers who are among my customers for appliances. Special arrangements can be made to take the whole Comb Honey product of large apiaries, and special prices can be given for the Honey where part payment is taken in appliances. Spring crates are lent free to ensure safe transit by rail. Any quantity of English Bees-Wax can also be purchased.

THOMAS B. BLOW,
Manufacturer of Bee-Keeping Appliances,
WELWYN, HERTS. 121

Editorial, Notices, &c.

USEFUL HINTS.

Weather.—Excepting for a few hours' soaking rain—the want of which is being badly felt in the South—the weather continues about perfect for bee-keepers. We write these lines (in the early hours of as lovely a June morning as could be wished for) some 250 miles away from London, on the opening day of the Royal Show at Darlington. The "Ground" is less than a mile away, and gazing through the open window we see everywhere around the thick Yorkshire pastures and mown meadows, betokening no sign of the drought beginning to show itself in Kent and the Southern counties. The big green (not brown) haycocks, so characteristic of Yorkshire haymaking, are not yet carted off to the stackyards, but what crops they show! There is no burnt-up look about the bottom grass either, but rather the promise of a fine aftermath. It makes one feel quite proud to be a Yorkshireman. On the journey down, after leaving King's Cross 100 or 150 miles or so behind, good fields of white clover began to show themselves with a frequency very pleasing to a couple of bee-men, always on the look-out for such. The bee-bloom was plentiful, and no doubt yielding well, though on enquiry at our journey's end, we find supers are only now starting to be filled, but — as they say — "its coming if weather will only hold out." We echo the wish that it may, for bee-keepers first, and second for the success of what promises to be a grand show week.

Disinfecting Hives.—A correspondent from Birmingham (p. 254) gives some useful advice on disinfecting hives. Jeyes' Fluid, which he so strongly recommends, is one of the best of several excellent disinfectants, now sold under various names, and its use, as suggested by our correspondent, will no doubt add to its usefulness for the purpose referred to. The difficulty, however, in meeting the special needs of bee-keepers, is to find a chemical agent sufficiently powerful to destroy the *spores* of *bacillus alvei*—or foul brood—without killing the bees and brood also. No disinfectant now in use will destroy the spores referred to, though many of those included in the various coal-tar products have the desired effect, when the spore reaches the active or "growth" stage.

Filling up the Brood-Chamber. — At the moment of going to press we hear of "big takes" in the south, already one bee-keeper having, to the present, taken over 100 lb. of honey from several single stocks. This is highly satisfactory, of course, but it becomes necessary to see that the brood-chambers are not also filled up with honey so as to stop brood rearing altogether. We have known this to happen when honey comes in so fast that the super-room has proved totally inadequate to hold all the abundant stores gathered. When a super is completed and is removed, or a fresh super is added, a glance in the body of the hive will disclose how matters stand, and the removal of three or four frames of honey therefrom and the insertion of empty ones will materially help matters, and save a prosperous colony running entirely down. A hive and supers full of honey is a grand thing to contemplate, but we must give room for "mother" to carry on her part of the economy, or otherwise we shall find our bees become listless, and not reap the full measure of the harvest we should otherwise have secured.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, on Thursday, 13th inst. In the absence of the chairman and vice-chairman, the Rev. R. Errington was voted to the chair. There were also present W. O. B. Glennie (treasurer), Rev. G. W. Bancks, C. D. Till, Major Fair, J. H. New, J. M. Hooker (ex-officio), and John Huckle (secretary). Communications were received from the chairman, vice-chairman, and Messrs. Carr, Garratt, Harris, and Hooper regretting their inability to be present.

The minutes of the last meeting of the counsel were read and confirmed.

Letters were read, (1) from the secretary of the Royal Agricultural Society, intimating that the society's council tent would be placed at the disposal of the B.B.K.A. for a meeting to be held in the Show Yard at Darlington, on Wednesday, 26th inst., at 3 p.m. (2) From the secretary of the Durham and Northumberland Association, suggesting that the question of the publication of a pamphlet on "The Preparation of Bees for the Heather

Harvest." The secretary was instructed to communicate with the secretary of the Durham Association, and Mr. Grimshaw, secretary of the Yorkshire Association in reference to the subject.

The Educational Sub-committee reported that Messrs. C. N. White, R. Green, Rev. W. E. Burkitt, F. H. K. Fisher, C. T. Overton, and the Rev. E. Davenport had successfully passed the foul-brood examination held on May 11. Mr. Till reported on behalf of the Special Foul Brood Committee, that the committee had prepared the information asked for by the President of the Board of Agriculture, and the necessary arrangements for the committee to wait upon the officials at the offices of the Board of Agriculture would be complete in the course of the next few days. The secretary reported that he had written to the British Dairy Farmers' Association, inquiring as to whether the Association would offer prizes for honey at the forthcoming Dairy Show, but had not as yet received their reply.

The following new members were elected :—Miss Nicholson, 13, Lloyd-square, W.C.; Mr. W. J. Anstey, Marlboro'-road, Oxford; Mrs. L. H. Symonds, Four Post Hill, Southampton.

The Council adjourned to July 11.

ROYAL AGRICULTURAL SOCIETY.

SHOW AT DARLINGTON.

Just before going to press we are enabled to report the opening of the annual exhibition of the British Bee-keepers' Association in connection with the Royal Agricultural Society's great show at Darlington.

The weather on Monday was brilliantly fine the whole day, and the show week promises to be one of the most successful on record.

We append the list of prizes awarded, and full report of the show will appear in our next.

AWARDS.

HIVES AND APPLIANCES.

Collection of Hives and Appliances.—1st, Chas. Redshaw, South Wigstown, Leicester; 2nd, W. P. Meadows, Syston, Leicester; h. c., W. Dixon, Beckett-street, Leeds.

Observatory Hive stocked with Bees.—1st, W. Dixon; 2nd, R. Brown, Somersham, Hunts.

Most Complete Frame-Hive.—1st, C. Redshaw; 2nd, W. P. Meadows; 3rd, C. Redshaw; h.c., Geo. E. Puttergill, Mona-street, Beeston, and C. Redshaw; c., Lanaway & Sons, Redhill, Surrey.

Cottager's Hive.—1st., C. Redshaw; 2nd, W. P. Meadows; 3rd, C. Redshaw; h.c., A. C. Jamieson, Dringhouses, York.

Extractor.—1st, 2nd, and h.c., W. P. Meadows.

New Inventions in Bee-Appliances introduced since 1893.—Bronze Medal, G. W. Hole, Patcham, Sussex, for Self-Hiver; certificates to Harold M. Bryans, Hampton, Malpas, Cheshire, for Super-Clearer; and A. C. Jamieson, for "Multum-in-parvo."

Interesting Exhibit connected with Bee-Culture.—Bronze Medal to W. Dixon for collection of photographs, lantern-slides, &c.

HONEY.

Twelve 1-*lb. Sections.*—1st, E. C. White. Woodford, Salisbury; 2nd, S. E., Agricultural College, Wye, Kent; 3rd, Jesse Garratt, Meopham; c., Horticultural College, Swanley, Kent.

Six 1-*lb. Sections.*—1st, R. Brown, Somersham, Hunts; 2nd. E. C. R. White; 3rd, Miss F. E. Smith, Lichfield.

Twelve 1-*lb Jars Extracted Honey.*—1st, J. Garratt; 2nd, B. Crisp, Henley-on-Thames; 3rd, S. E. Agricultural College; h. c., E. C. R. White; c., S. & E. Cooper, Leicester.

Twelve 1-*lb. Sections* (*any year*).—1st, H. M. Bryans; 2nd, S. Cartwright, Shrewsbury; 3rd, W. Dixon; c. W. Woodley, Beedon, Newbury.

Three Shallow Frames of Honey.—1st, A. J. Carter, Billinghurst; 2nd, Geo. Wells, Aylesford, Kent; 3rd, W. Dixon.

Twelve 1-*lb. Jars Extracted Honey* (*any year*).—1st, Rev. F. J. Evans, Hargrave Vicarage, Chester; 2nd, O. Roberts, Tarporley, Cheshire; 3rd, T. H. Jackson, Kirby-Moorside, Yorks; h.c., H. Wood, Paradise, Lichfield; c., W. Dixon.

Twelve 1-*lb. Jars Granulated Honey.*—1st, Wm. Woodley; 2nd, Mr. Daniels, Sinderley, Thirsk; 3rd, E. Bowes, Elmhurst, Darlington; h.c., W. P. Meadows and H. Wood.

Collections of Honey.—1st, W. Dixon; 2nd, W. P. Meadows; 3rd, S. and E. Cooper; c., Mrs. Kirk, Stillington, Easingwold.

ESSEX B.K. ASSOCIATION.

ANNUAL SHOW AT SOUTHEND.

For nine years, during which time the Essex Beekeepers' Association have had the management of the honey and hive department at this show, the beekeepers of Essex have been gradually educated up to exhibiting their productions in the best form. The present season is a very favourable one for bee-keepers, and the result was a finer show of honey than has ever been seen in Essex before. The twenty-two classes were all fairly well filled. The quality of the honey throughout was good, the first prize in several of the classes being carried off by Mr. T. Collier, for some beautifully flavoured run honey. In the class for hives and appliances there were entries from Messrs. Dines & Son, of Maldon, H. Hutchings, St. Mary Cray, Kent, and C. T. Overton, Crawley. There were six entries in the class for useful inventions since 1894, but that which the judge considered should have the

prize—a self-hiver shown by Mr. G. W. Hole, of Patcham—was disqualified as having been shown in 1894. Mr. F. H. Meggy, hon. sec. to the E.B.K.A., had charge of this department of the exhibition. Talks about bee-keeping were given in the bee tent by Mr. Roland Green, Messrs. T. I. Weston, C. R. Finch, F. H. Brenes, A. Barnard, and W. Debnam (expert of the E.B.K.A).

Hives and Appliances.—1st, J. Dines & Son, Maldon; 2nd, H. Hutchings, St. Mary Cray.

Useful Invention.—Winner disqualified.

Amateur-made Frame Hive.—Withheld.

25-*lb. Sections of Comb Honey.*—1st, T. Colyer, Good Easter; 2nd, W. Debnam, Chelmsford; 3rd, A. Mayell, Bradwell-on-Sea.

Twenty-five 1-*lb. Jars Extracted Honey.*—1st, T. Colyer; 2nd, W. Debnam; 3rd, A. Mayell.

Collection of Comb and Extracted Honey.—1st, F. H. Brenes, Brentwood; 2nd, J. C. Chillingworth, Bradwell-on-Sea.

Mr. J. M. Hooker, who officiated as judge, made the following

AWARDS.

Three Frames of Comb Honey for Extracting.—1st, F. J. Carter, Galleywood; 2nd, T. Colyer.

Twelve 1-*lb. Sections.*—1st, W. Debnam; 2nd, T. Colyer.

Six 1-*lb. Sections.*—1st, Rev. R. T. Shea, Little Wakering; 2nd, F. H. Brenes; 3rd, F. J. Carter.

Single 1-*lb. Section.*—1st, T. Colyer; 2nd, F. J. Carter; 3rd, A. Mayell.

Twelve 1-*lb. Jars Extracted Honey.*—1st, T. Colyer; 2nd, W. Loveday, Hatfield Heath.

Six 1-*lb. Jars Extracted Honey.*—1st, T. Colyer; 2nd, W. Loveday; 3rd, W. Debnam.

Six 1-*lb. Jars Granulated Honey.*—1st, W. Debnam; 2nd, C. M. Collins, Tillingham; 3rd, W. Loveday.

One 1-*lb. Section.*—1st, Rev. R. T. Shea; h c, T. Colyer.

One 1-*lb. Jar Extracted Honey.*—1st, T. Colyer; 2nd, F. H. Brenes; 3rd, W. Debnam.

Bees' Wax.—1st, W. Debnam; 2nd, Rev. R. T. Shea; 3rd, J. C. Chillingworth.

COTTAGERS ONLY.

Collection of Comb and Extracted Honey.—1st, J. Winter, Kelvedon Hatch; 2nd, H. Hale, Broomfield; 3rd, C. M. Collins.

Single 1-*lb. Section.*—1st, J. Winter; 2nd, A. Mayell; 3rd, L. J. Camping, Southminster.

Six 1-*lb. Sections.*—1st, J. Winter; 2nd, L. J. Camping, Southminster; 3rd, C. Bradd, Grays.

Six 1-*lb. Jars Extracted Honey.*—1st, J. Winter; 2nd, W. Loveday; 3rd, A. Mayell.

Bees' Wax.—1st, J. Winter; 2nd, A. Mayell; 3rd, C. M. Collins.

Amateur-made Wood Hive.—1st, J. Tween, Good Easter.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS *of the 'British Bee Journal,' 17, King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to "*THE MANAGER, *'British Bee Journal' Office, 17, King William-street, Strand, London, W.C." (see 1st page of advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE-KEEPING IN PALESTINE.

[2101.] Several articles have appeared in *The Morning Star* respecting the products of Palestine. Your question whether an average of 42 lb. per hive was good for our country, was answered and inserted in your much-esteemed BRITISH BEE JOURNAL. It is, therefore not necessary for me to write upon this matter, but if it will interest you I can say something about their products, and on their producers. The culture of the vine is extending rapidly and has made great progress during recent years, especially in the German colonies established by Rothschild, and inhabited by Jews who have emigrated from Russia and other parts. We are invaded by the descendants of Father Abraham, who also came in the earlier times from Armenia, to such an extent that one is tempted to believe in the restoration of the Kingdom of Israel. This is very well, provided they do not apply the law of Moses to storm us with stones, and that all Canaanites must perish with the edge of the sword. The Jew does not like to till the ground, therefore cultivation of every description is left to the natives, who by this means prosper very well. The sons of Isaac and those of Ishmael understand each other like good friends, the one has the money, and the other has strong arms. The works were formerly superintended by the French, but latterly by the pupils leaving the agricultural colleges. If the Jew is not a worker it is not his fault, for having left the "house of bondage" he was spoilt during forty years, wandering in the desert supplied with quails falling at their feet and manna dropping from the trees. Although the Jew is not an adept at cultivating the land, he is certainly so at manipulating instruments connected with art and trade. The installations in their colonies are of the very best. The machinery used in the manufacture of wine and other articles is driven by steam (quite unique in Palestine) and they have the latest inventions from Europe. Depots of their wine and eau-de-vie are found everywhere and their nurseries and gardens supply thousands of trees,

flowers and plants. Bee-keeping is carried on by three or four individuals, two of whom have adopted our system of hives. One young man, only recently arrived, and who has studied apiculture with the great German bee-keeper, Herr Dathi, has settled in one of these colonies of Baron Rothschild, with the intention of keeping bees in German hives.

The honey obtained by these Jewish bee-keepers is seldom gathered from one species of flower, because during the short honey flow from some particular flower, which yields a good quality of honey, holidays intervene and prevent the extraction of the honey, and work is often suspended for eight or ten days. The first flower ceases to bloom, and the bees gather honey from other flowers, which may produce an inferior quality, and it is for this reason that they do not export the product of their hives, but sell it on the spot.

There are four German colonies, one at Jerusalem, two in Jaffa, and one at Carfa, founded and inhabited by natives of Southern Germany, and Germans who had formerly emigrated to America and Russia, but who have come to Palestine to join their brethren. This dates from 1870-71, when they emigrated in masses, and have come to Palestine on the pretext of rebuilding the "Temple." They have in consequence adopted the name of "Templars." They form a sect by themselves, deny the divinity of Christ, and have substituted for baptism "the presentation of their children to the Lord," as practised formerly by the Jews at the Temple of Solomon. They have no priests, and one of themselves is selected to conduct the service on Sundays and holidays, which are pretty frequent. They have no churches specially set apart for prayer, but they have a building which they call "Saâl," which serves for their meetings, concerts, and theatre. They had given up their German nationality, but being threatened by their Government with the withdrawal of its protection and their abandonment to the tender mercies of the Ottoman Empire, they have again adopted their old nationality, and furnish every year a certain number of young men for the army. The Government protection is certainly worth having, for one is tempted to believe that the promise to Abraham that "thy seed shall be like the sand that is upon the sea-shore" might be applied to them considering their rate of increase. — JEAN BALDENSPERGER, *Jaffa, May* 7, 1895.

(*To be continued.*)

BEE-KEEPING IN SWANSEA VALLEY.

[2102.] As your journal has a large circulation in this district, and its contents are much appreciated by bee-keepers in general, I, as a constant reader, am surprised that no apiculturalist residing in this (Swansea) Valley has taken pen in hand to write something about their doings. Much attention is devoted to beekeeping in the valley, and it is known to have been so for the last 100 years or more. Most bee-keepers who read the B. J. are also aware that the vile epidemic known as foul brood is to a great extent spread by neglect and carelessness on the part of a few, and thus it infects the hives of other bee-keepers who are more careful. I think, therefore, that a little occasional intercourse on these and other matters through the medium of your valuable journal would benefit others who take an interest in apiculture as well as myself. Bees, like humans, carry good as well as evil in their wanderings, and thus the careful bee-keeper may have to suffer through the neglect of those who are careless in their management of bees. But how are we to find out those who at fault without some means of intercourse one with the other. This is why I now write to invite correspondence.—RICHARD W. GREY, *Llansamlet, Swansea Valley, June* 14.

DISINFECTING HIVES.

[2103.] In your editorial, on page 221, you refer to the treatment of foul brood and disinfecting after it, so I thought I should like to give my brother bee-keepers what I consider the *best* method of disinfecting their hives, fittings, &c., both as a preventive and as a safe and sure method of disinfection after foul brood. I would here like to say, in order to assure your readers that I know something about infectious diseases, and methods of disinfection, I have for the past six years been practically engaged in dealing with infectious diseases and disinfecting after them; and what I say now is also the result of experiments with my own bees and hives, &c. First, I agree with what you say with respect to burning all diseased combs, &c., and the method of dealing with the bees; with respect to this latter, I am awaiting an opportunity to carry out experiments with the bees themselves, and, if satisfactory, will send on the result. But with regard to disinfecting the hives, fittings, &c., in which the disease has been, I believe that there is not a better disinfectant for these purposes than Jeyes' Fluid. This is acknowledged by eminent scientists to be *the* standard coal tar disinfectant; and moreover, being a disinfectant of the naphthaline series, it is of more value to bee-keepers than any other, and will enable them to dispense with the poisonous carbolic acid. To disinfect the hives, &c., after foul brood, proceed as follows:—Make a solution of Jeyes' Fluid (can be obtained from all chemists in 6d. and 1s. bottles) by adding four tea-spoonfuls of the fluid to a quart of water: put this in a vessel (I use a golden-syrup tin) over the fire till it boils, and then thoroughly well wash the insides of hives, and all fittings, taking care to get it well into all corners and crevices. When done stand the hive in the air to dry. This will destroy all germs of the disease, as you get not only the action of a powerful disinfectant, but also the action of

moist heat, which is also a good disinfectant. Put such quilts as are worth keeping, in a boiling hot solution as above, to soak for twenty-four hours, then rinse in clean water, and dry in the open air, and they will be quite fit for use again. I give my hives a dressing like this every spring (but with half the quantity of fluid), and have so far escaped the disease, although there is foul brood within a quarter of a mile of my bees. I also use a cloth saturated with the solution, instead of carbolic acid, when manipulating, and find it answers quite as well. At the same time it is non-poisonous and harmless, and, therefore, much better than having a dangerous poison about like carbolic acid.—THOMAS PAYNE, *Birmingham, June* 15.

NON-SWARMING SYSTEM.

[2104.] I am much obliged to your correspondent "Burley Beacon" for his remarks. I think it quite possible that the cause of my failure is, as he suggests, the omission to deal more promptly with the combs in the lower chamber. However, Mr. Simmins, in his book, gives no idea as to the frequency with which this chamber should be examined. If it requires looking into, say, every week to remove all comb approaching completion, I can only say that the remedy appears to me worse than the disease; if, indeed, that be a proper term to apply to such a natural process as swarming. A swarm managed as advised in the excellent editorial "Useful Hints" of a fortnight ago is a benefit, not an injury, to the apiary. But the necessity of lifting a heavy stock with super frequently off a non-swarming chamber, is one which we may well think twice before incurring. However, my object in writing was to draw out information from others who had tried the plan, and I thank "Burley Beacon" for his reply.—CHARLES E. COCKIN, *Eton, Hull.*

FOUL BROOD HARDSHIPS.

[2105.] On examining two hives yesterday that I intended to unite, I found that I have got foul brood, and thus what I feared from the individual I wrote you about the other day coming near me has happened. I have kept bees now for about ten years without having a touch of it, and my hives were quite healthy, and free from anything in shape of disease, I believe, so late as a month ago, but now, through that bee-keeper (?) bringing his poisonous stock near me, the whole of my stocks are perhaps ruined. I think it is a shame that he cannot be prosecuted, and that I have no redress. I suppose I can do nothing but keep naphthaline in the hives now? I burned one stock that was the most badly infected of the two I intended to unite, and shall melt the combs down.—W. H. J.

[Our correspondent will do well to read the article on page 221 in B.J. of the 6th inst. The above, however, is but another instance proving the need for compulsory powers in dealing with cases such as the one detailed.—EDS.]

AN EXPERIENCE.

[2106.] The following experience may be worth relating:—I yesterday purchased a cast as it hung in a tree, and hived the same temporarily in a skep. When hiving the bees we saw a queen run into the skep. In the evening I sent an assistant to bring them home, and on his return he also brought with him two dead queens in his pocket, which he had found on the temporary floor-board. When the cast had been hived in a frame-hive in the usual way there were unmistakeable signs of the bees being queenless, and then we noticed a third queen lying dead on the cloth. As it was then nearly 9 p.m., we decided that nothing could be done that night, and came away, bringing the three queens with us. I laid them down while having supper, after which I intended to dissect them. On going to pick them up, however, I noticed one move a leg. I immediately took her up and warmed her in my hand before a fire. Shortly she began to clean her antennæ, and then to rub her hind legs and wings. Finally she became quite lively, running about my hand: so I warmed a small box and placed her in it, and took her down to the hive, into which I inserted her on the "Simmins" plan. This morning, however, I noticed a strange quietness about the entrance of the said hive, and on opening it found about six (!) bees left, and the queen dead on the floor.—PERCY SHARP, *Newark-on-Trent, June* 20.

[The "experience" was certainly an unusual one. It is probable, however, that the swarm has decamped with a young queen at its head. —EDS.]

AN APOLOGY.

[2107.] We beg, through the columns of your valuable journal, to apologise to all our customers whom we have inconvenienced through our delay in executing their kind orders. The following cutting from our local paper of April 25 last will show the position in which we unfortunately found ourselves at the commencement of the season. We have necessarily had to repair and replace as well as possible the damage done:—

"Everybody will sympathise with Mr. William Bazeley, the well-known naturalist and taxidermist, of Sheep-street, in the unfortunate fire which this morning practically destroyed his valuable collection of natural history specimens. The fire, the origin of which is unknown, was discovered just before eleven o'clock, and nearly the whole of

the contents of the room in which it occurred were destroyed. The collection, I believe, numbered about two thousand specimens, which it had taken Mr. Bazeley his lifetime to get together. It is almost impossible to appraise in terms of money the value of so much skilful and patient work."

Trusting this will explain to those whom we have unavoidably disappointed, and ensure a continuation of their valued orders, which we are now prepared to execute by return of post. —W. Bazeley & Son, *Northampton.*

AN APPEAL

ON BEHALF OF THE WIDOW AND FAMILY OF THE LATE THOMAS BADCOCK.

Amount received or promised ...	£5	17	6
The following sums have since been received :—			
J. Garratt	£1	1	0
F. Armstrong	0	5	0
Miss Beach	0	5	0
G. Newman	0	1	0

Queries and Replies.

[1304.] *Spotted Comb. Cutting Out Queen Cells, &c.*—1. I took a frame full of drone brood out of one of my hives, and laid it on one side. I now find the brood has got quite black in places, and is spotted with black marks in others. Would it be safe to put the frame back into a hive for the bees to clear out? I have failed in trying to clean out the comb myself. 2. On June 11 I went through all my hives, and cut out all queen-cells. I should prefer having no swarms this year, and wish to know if it would be judicious to repeat this operation at stated intervals. How many days should I leave between each operation to make sure of no swarms issuing? 3. Is it a fact that an egg laid in a worker-cell when removed to a drone-cell will eventually hatch into a drone? and would an egg from a drone-cell placed in a queen-cell eventually be a queen? 4. Would you kindly give me the name and address of a reliable patent agent, who would thoroughly understand and properly protect an appliance connected with bees which I wish provisionally to protect?—H. M. Bryans, *Cholmondeley, Cheshire.*

Reply.—1. Under the circumstances detailed, we would advise the destruction of the comb and contents by fire, so saving all risks. 2. If all queen-cells are removed every sixth day, there will be little chance of the bees swarming. It entails a lot of trouble, however, and if the supers are on the hives—as we anticipate they are—we should not consider it judicious to upset the colony every week, but would rather rely on giving the bees more room above, with plenty of ventilation from below. 3. It is not a fact. An egg from a worker-cell may become a queen, but a worker egg can never become a drone, or a drone egg a queen. 4. We know of no patent agent we can recommend.

[1305.] *Giving Supers to Swarms.*—Guide-books and writers in the Journal instruct us to place supers on hives a few days after hiving a swarm, whereas a friend advises me not to do so, or I shall have to feed them all the winter. The swarm has nine frames in brood chamber, with whole sheets of foundation, but they cover only about five frames at present. The parent stock has a super of sections; four or five are nearly full, but the rest not touched. 1. What should be done under such circumstances? 2. Is it the best to remove these sections as soon as they are sealed over, and substitute empty ones? I mean in preference to introducing a frame of sections underneath. The parent stock and two swarms are together in another hive. 3. Is it good policy to buy a swarm this season so as to prevent (in some degree) inter-breeding? —Novice, *Axminster, Devon.*

Reply.—1. Looking to the fact that the swarm only covers five frames of foundation it would be useless giving them a crate of sections at present. The better course would have been to have returned the swarm after cutting out the queen-cells from stocks. See "Guide-Book," by Thos. W. Cowan, pp. 15 and 16. Everything depends upon how much honey is left in the brood-chambers whether "Novice" will have to feed up for the winter or not. 2. Sections may be removed when completed and fresh ones given as proposed. 3. It is good policy to prevent in-breeding certainly, either by introducing a queen or buying a swarm from a distance. We think the former method would be the cheaper. A more careful study of the "Guide Book" would, we fancy, much help "Novice," and we can safely say that he will not go far wrong by following the advice given therein.

[1306.] *Bees Refusing to Enter Sections.*—I had a swarm on Sunday (16th inst.) from a hive which was strong in bees on eleven frames. Will you kindly inform me—1. Will there be a chance of the old stock doing anything in supers this year? 2. Ought they to be fed? Before the bees swarmed I had put a rack of section on at the beginning of May, hoping to prevent swarming, but, though the bees clustered in the super, they never commenced drawing out the starters or doing any work at all. 3. Can you give any reason for this?—R. Dymond, *Southgate, June 29th.*

Reply.—1. We fear not. Sections not taken to before a stock swarms are not likely to be filled after the hive has swarmed. 2. It should not be necessary to feed the parent hive in such a season as this, unless bee forage is

exceptionally scarce in your district. 3. The clustering in sections and doing no work therein is certainly owing to the absence of nectar-producing bloom in the vicinity. A change may come when the limes are in flower if meantime no clover is available; but you may be quite sure the fault does not lie with the bees. *They* will work if there is bloom to work on.

[1307.] *Are Young Fertilised Queens Left in Hives when First Swarms Issue?*—1. Do you think it ever occurs that a young *fertilised* queen is left in the hive when the old queen leaves with the first swarm? 2. If queen, as above, was in the hive, would she allow four or five queen-cells to remain untouched for two days? 3. If such a queen was at work would the bees fill the centre of combs with honey—said combs being in the middle of brood-nest? 4. With abundance of brood and some eggs, what is likely to be the outcome?—G. D., *Long Eaton, June* 12.

REPLY.—1. Pre-supposing that by "fertilised" a *laying* queen is meant, we have never heard of such a thing, and consider it very improbable in your case. 2. A recently-hatched queen, whether fertilised or no, will not tolerate embryo rivals in the same hive, and unless the latter are protected by the worker bees, they would soon be destroyed. 3. The bees would fill with honey any cells found vacant, whether in the centre or not, so long as no egg-laying was going on in the hive. 4. When the young queen left in the hive begins ovipositing, all will, no doubt, go on right.

REVIEWS OF FOREIGN BEE PAPERS.

By J. DENNLER.

Le Rucher Belge.—Editor A. Wathelet.—*Prevention of Swarming and Bad Food.*—M. Felicien Chatelain, of St. Marc, writes: Experience has shown me that during a bad season a crowded hive soon swarms if frames of comb foundation are given to it. If there is a honey-flow the combs are completed in the frames, otherwise the small quantity of honey remaining in the hive is used to feed the brood, increasing the population, which then swarms. The enlargement of the hives, in good as well as bad seasons, is not the proper means of preventing swarming. If the hives are short of stores in the spring, and a period of bad weather arrives, they do not swarm. On the contrary, they do so after this enforced repose, even if honey is scarce. Old bee-keepers, who take up their heaviest hives in the autumn, know that they will not swarm in spring. If we left at least 40 lb. of stores in our hives for the winter and spring, swarming would not take place generally. There is no use in enlarging hives unless there is an abundance of honey in the hive. To succeed in preventing swarming, the hives must be treated in regard to the quantity of honey remaining in the hives or the honey-flow out of doors. I leave plenty of stores in my hives, and do not resort to stimulative feeding. In my locality there have been pears in abundance, and many have made perry. The pears were cooked in an air-oven in the yard, and the bees, attracted by the smell, perished in the pan, others gorged themselves with the liquid coming from the press, and the people making the perry destroyed them as fast as they could. They brought a quantity of this stuff into the hives, which have in consequence suffered enormously. The majority of the population died in a few days. It is proposed to renew this manufacture of perry next season, but what is to be done with the bees? (They should be shut in.) During November my bees gathered honey on ivy growing against the wall of our house, but the cobwebs covering this ivy caught thousands of bees.

Swallows are the worst enemies my bees have. In September they caught them within a foot of the entrances of hives, especially on rainy days. The manufacture of perry, the cobwebs, and the swallows have made sad havoc with my colonies.

L'Apiculteur.—Editor, E. Sevalle.—Bee-keeping in China.—René Madeline gives details on bee-keeping in China, which, during the progress of events in this Oriental country at this time, are not without interest.

1st. Style of hives used.

The primitive hive, composed of a hollow trunk of a tree.

2nd. Apiculture in general.

Apiculture is very little practised in this country. It is often the priests of the temples in the villages who cultivate bees.

3rd. The harvesting of the honey and wax. This takes place twice a year, in the spring and autumn. For this purpose the lower part of the tree trunk is removed, and half the combs are cut out, the bees having been previously smoked. The smoking is done by burning the roots of a species of artemisia (wormwood).

4th. The use made of the honey.

It is largely used in pharmacy, and also for making preserves of fruit.

5th. The value of honey and wax.

Honey sells for one taël the nine and a-half pounds. A Chinese pound is equal to about one and a-half English pounds. The taël is worth three shillings. In Pekin, Honey sells for about 1s. a pound retail (0.42 cents of a piastre).

Wax of first quality sells on the spot for one taël the pound. Second quality wax only realises one taël for two pounds.

These prices are for wholesale in the mountain villages to the north of Pekin.

Wax is used in China for the purpose of hardening tallow-candles. It is also used by chemists as a covering to pills and in this manner the chemical matters contained therein are preserved.

6th. Do the Chinese convert honey into drinks?

Not as a rule. Sometimes in summer they put a little honey in hot water and use this as a drink. Lastly, the people in this country have no special appliances for bee-keeping. They use just those that have been always used, and these are certainly most primitive.

Elsass-Lothringische Bienenzüchter.—Editors Dennler & Zwilling.—*A gum for labels.*—Take white of egg and beat it into a froth, allow this to settle, and with a camels-hair brush apply the liquid to the back of the label. This is afterwards pressed on the glass by means of a clean cloth. This gum resists damp very well.

Bee Shows to Come.

June 24 to 28.—Royal Agricultural Society's Show at Darlington. Entries closed. Secretary, J. Huckle, King's Langley, Herts.

July 3.—Hunts B.K.A. Annual show at St. Ives. *Open class* for Three Sections. Prizes £3. 10s. Schedules from C. N. White, Somersham, Hunts.

July 17, 18, 19.—Lincolnshire Agricultural Society's show at Grantham. Thirteen classes and liberal prizes for bees, honey, hives, and appliances. For schedules, apply to S. Upton, Sec., St. Benedict's-square, Lincoln. Entries close June 28.

July 19 and 20.—Bristol District Bee-keepers' Association. Annual Show at Knowle. Entries close July 13. Schedules from Miss Dawe, Hon. Sec., Long Ashton, Bristol.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries close July 1. Schedules from Jas. Birch, Sec., 3, Brunswick-street, Liverpool.

July 25, 26.—Kent B.K.A. annual show (in connection with the Tunbridge Wells and South-Eastern Counties Agricultural Society), at Tunbridge Wells. Schedules from J. Garratt, Hon. Sec., Meopham, Kent.

August 5 (Bank Holiday).—Notts B.K.A. Annual County Show on the Sconce Hills, Newark. Eighteen classes for bees, hives, and honey, with liberal prizes. Several open classes. Entries close July 27. A. G. Pugh, hon. sec., N.B.K.A., 51, Mona-street, Beeston.

August 5 and 6.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Nine classes for honey. *Special open class* for single 1-lb. jar of extracted honey. Five prizes: 1st, silver medal and 10s.; 2nd, 15s.; 3rd, 10s.; 4th, 5s.; 5th, 2s. 6d. Entries close July 25. Robt. Hefford, Hon. Sec., Boughton, Northants.

August 5.—Berks B.K.A., Newbury District, in connection with the flower show in Shaw-avenue, Newbury. Liberal prizes. Entries close August 2. Schedules from W. Hawkes, Hon. Sec., Newtown-road, Newbury.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries close June 29. Schedules from Marshall Stephenson, Sec., York.

August 6 and 7.—Staffs. B.K.A., at West Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances. Schedules, when ready, from Harold Twentyman, Wolverhampton.

August 15.—Goole and District Agricultural Society. Annual show at Goole. Five open classes for bees and honey. Entries close August 8. J. Luddington and H. S. White, secretaries.

August 22.—Show of bees, hives, and honey, in connection with the Horsham Horticultural Society's show at Springfield, Horsham. Entries close August 17. Lectures in Bee-tent by the Rev. C. Brereton. R. Gilburd, Sec., 39, Carfax, Horsham.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

F. B. F. (Chiswick).—*Bees Deposing Queen.*—It is not an unusual occurrence for bees, when a queen is failing through age or accident, to take steps to depose her. In your case she may have been injured in hiving the swarm.

A. C. C. (Church Gresley).—Comb is affected with foul brood.

J. C. (Somerset).—Comb contains nothing more than sealed honey or syrup.

Cosmos (Swansea).—Slight case of foul brood.

M. L.—1. Comb contains honey and pollen only; so we can express no opinion as to similar comb being fit for giving to bees or not. 2. Use half as much again of water in making thin syrup. 3. We don't know what size of frame is used in the "Blantyre hive." Ten standard frames are about right for the brood-chamber. Names and address should be sent with queries (not necessarily for publication).

Hartpury (Glos.) and C. H. (Bromsgrove).—Both bad cases of foul brood.

H. A. (Manchester).—1. Queen received is too dry and hard for dissection. She has every appearance of being a virgin, and it is almost certain she is not the queen purchased. 2. If there are eggs in the hive from a mated queen, the bees will raise a successor, otherwise a fertile queen should be introduced without delay.

A Derbyshire Novice.—We cannot judge for how long a period bees have been affected with foul brood from inspection of the

diseased combs, unless under exceptional conditions not present in your case. We should, however, be glad to hear what the "dealer" referred to has to say on the subject, and you ought certainly to write him.

F. W. MERRILLS (Manningtree).—We will make inquiry of the dealer referred to.

H. BURTS (Bury St. Edmunds).—*Superfluous Drones.—Bees Refusing Surplus Room.*—1. It is a very common occurrence for hives which have sent out several swarms to have a large preponderance of drones. The latter cling to the parent hive for obvious reasons, and all the drones which happen to go off with the swarms invariably return to it. The only way of avoiding superfluous drones is to limit their production by not allowing more than a very limited amount of drone-cells in the combs. 2. The fact of bees refusing to take to supers, preferring rather to send off swarms than do so, is generally explained by the "room" being given after preparations for swarming had already been made.

WM. CAMPION (Burton-on-Trent).—*Cleaning Wax.*—Apart from the possession of a wax extractor, say, of the "Gerster" type, the simplest way of cleaning the wax is to melt and re-melt it in hot water, skimming the wax off the top (before it boils) into clean hot water, and cutting away the discoloured portion of the wax from the underside of the cake when cold.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

STRONG HONEY CANS. 2lb. Bottles. What offers. W. GRIFFIN, Uxford-road, Reading. H 60

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15 2lb. SCREW TOP BOTTLES. Splendid Pale Extracted 1895 Honey. What offers. WALTER ADAMS, Welwyn, Herts. H 57

CYCLOPÆDIA of AGRICULTURE. SCIENTIFIC AND PRACTICAL. By Morton. Seven volumes. Cost £3. 10s. What offers. Bee-keeping appliances or cash. FLEMING, Foggy Furze, West Hartlepool. H 56

Prepaid Advertisements *(Continued)*

BEES, Strong Healthy Swarms all '94 Queens, 10s. 6d. each. Swarm-boxes to be returned. ED. LONG, Cottenham, Cambs. H 11

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BREERETON, Pulborough, Sussex. 109

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

LACE PAPER for GLAZING SECTIONS. Three neat patterns, 100 strips, 22 inches long, 8d., post free, 500, 2s. 9d., post free. W. WOODLEY, Beedon, Newbury.

PURE BLACKS, Swarms, 5s., 10s. 6d., and 15s.; Nuclei, 5s.; Queens, 3s. 6d.; free on rail; empties returned. ALSFORD, Expert, Blandford. 139

HONEY SECTIONS WANTED, for cash, new. Best pale, well filled, and sealed only received. T. SMITH & Co., 17, Cambridge-street, Hyde Park, W. H 47

PURE ITALIAN QUEENS, from LUCIA PAGLIA, Royal Bee Establishment, 7s. each; six for 39s. Cash with order. J. GREENHILL, 89, Graham-road, Wimbledon.

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1895 HYBRID QUEENS.—Special Ligurian Hybrids—Queens, tested, 5s. 6d. each; Virgin Queens, 3s. each. All Queens sent in my new Introducing Cages, post free. Safe arrival guaranteed. H. W. BRICE, Beulah-road N., Thornton Heath, Surrey.

WANTED, SECTIONS and EXTRACTED HONEY. Packages lent free to Bee-keepers and Associations. Prompt cash. State lowest price, enclosing stamped envelope, to Rev. W. HANDCOCK, Hampton Hill, Middlesex.

YE OLDE ENGLISHE BEE.

Fine selected English Queens, 3s. 6d. each; finest tested English Queens, 5s. each. Postage 3d. W. WOODLEY, Beedon, Newbury.

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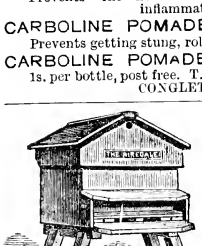
(FOURTH SEASON).

Kills Bee-stings like magic.

CARBOLINE POMADE
Prevents the horrible smarting and burning inflammation.

CARBOLINE POMADE
Prevents getting stung, robbing, &c.

CARBOLINE POMADE
1s. per bottle, post free. T. HOLLIDAY, ASTBURY CONGLETON.



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Hives, Extractors, Smokers, Feeders, Foundation, &c.
Prizes Awarded, Gold, Silver, & Bronze Medals.

E. J. BURTT, *For HIVES made or carefully selected and seasoned wood. For EXTRACTORS, FOUNDATION, SECTIONS, SMOKERS, &c., &c*

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Illustrated Catalogue Free.

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Finest Quality Sections ... ... 18/- 1,000; 2/3 100.
Stock Foundation... ... ... per pound, 2s.
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Honey Glasses, metal top ... ...gross 21s.
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Special Honey Extractor, with cog wheel ... 35s.
SEND FOR A CATALOGUE.

J. S. GREENHILL, 80, Graham-road, Wimbledon.
(27 Years with Neighbour & Sons.)

SWARMING SEASON, 1895.

NO MORE LOST SWARMS,
If my SELF-HIVER is used.
NO OBSTRUCTION TO THE BEES.
Admitted to be as near as possible to perfection.

SEND ADDRESS FOR ILLUSTRATED PAMPHLET POST FREE.
G. W. HOLE, PATCHAM, SUSSEX. 115

TO DEALERS.

AMERICAN SECTIONS at Liverpool, London, and Wholesale Depôt, Peterboro'. Root's Creams at cost prices to clear. Also a large Stock of Sections in America waiting shipment, for which immediate orders secure delivery in July. Cheap ex steamer.

W. BOXWELL, Patricksweil, Limerick. 138

BEE-KEEPERS in LANCASHIRE and CHESHIRE, &c. THE CENTRAL SUPPLY STORES for all BEE REQUISITES is in LIVERPOOL 50, GREAT CHARLOTTE STREET. GEORGE ROSE. Why pay carriage from long distances, when you can buy as cheap and good locally, and *have your orders promptly attended to?* Catalogues gratis. Sow now CHAPMAN'S HONEY PLANT, 6d Packet. Expected shortly, big lot of HONEY JARS (screw and tieover). Large buyers, please write at once. Very low prices per crate sold ex dock on arrival and for cash. Best Falcon Sections very low per 1,000 or 10,000.

TO BEE-KEEPERS AND SECRETARIES OF COUNTY ASSOCIATIONS.
GEO. J. BULLER, Triangle, Hitchin, Herts
(Many years Foreman to Mr. T. B. Blow),
Is prepared to undertake the management of Bees and general expert work, by the day or season.
For terms, apply as above.
(DEALER IN BEE-KEEPING APPLIANCES.)

BRITISH BEE-KEEPERS'
PRACTICAL NOTE-BOOK.

With Rules for the General Management of Movable Comb Hives.

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Consists of a Series of Tables by means of which the Bee-keeper can keep a record of all his Observations and Operations. A Pocket-companion indispensable to the practical Bee-keeper.

Price 1s., Postage 1d.

British Bee Journal and *Record* Office, 17, King William Street, Strand, London, W.C.

LINCOLNSHIRE AGRICULTURAL SOCIETY,
GRANTHAM EXHIBITION,
17th, 18th, and 19th July.

PRIZES are offered for BUTTER, EGGS, CHEESE, TABLE POULTRY, POULTRY, HONEY, HIVES, &c., amounting to £130. Entries Close 28th June. For Prize Lists and Entry Forms apply to
STEPHEN UPTON, Secretary.
St. Benedict's-square, Lincoln,
10th June, 1895.

W. P. MEADOWS,
SYSTON and LEICESTER.
ROYAL SHOW, DARLINGTON.

I shall show a Collection of Appliances from the 24th to the 28th, and shall be pleased to see my friends.
Address all Letters "Syston."

YORKSHIRE AGRICULTURAL SOCIETY.

PATRON: H.R.H. THE PRINCE OF WALES, K.G.
PRESIDENT: SIR SAVILE B. CROSSLEY, BART.

The FIFTY-EIGHTH
ANNUAL SHOW
Will be Held at HALIFAX,
7th, 8th, and 9th days of August, 1895,
When PRIZES amounting to £2,455
Will be offered for
CATTLE, SHEEP, GOATS, PIGS, HORSES, SHOEING, BUTTER, CHEESE, BEE APPLIANCES, & HONEY.
The Entry Closes on Saturday, June 29th.
Prize Lists and Forms of Entry for Stock and Implements will be forwarded on application to
MARSHALL STEPHENSON,
Secretary.
York, June 1st, 1895.
Telegraphic Address: "YAS, YORK."

NEW REMEDY FOR FOUL BROOD.

In view of the disastrous spread of Foul Brood—especially in certain districts—I beg to announce that I have just brought to a successful conclusion a long series of experiments with a new agent, which I have found to be an absolute and simple CURE for this disease in all its stages—the first remedy that will destroy the spores, and at the same time be harmless to the Bees.
Half-pint Bottles, 2s. 6d. Pint Bottles, 4s.
With full Instructions.

COMB HONEY IN SECTIONS.

During the past winter I have purchased between two and three tons of the above. It has been bought indiscriminately from the Bee-Keepers of Great Britain and Ireland. I hope to require five tons during the coming autumn and winter, and shall purchase by preference from those Bee-Keepers who are among my customers for appliances. Special arrangements can be made to take the whole Comb Honey product of large apiaries, and special prices can be given for the Honey where part payment is taken in appliances. Spring crates are lent free to ensure safe transit by rail. Any quantity of English Bees-Wax can also be purchased.

THOMAS B. BLOW,
Manufacturer of Bee-Keeping Appliances,
WELWYN, HERTS. 121

Editorial, Notices, &c.

ROYAL AGRICULTURAL SOCIETY SHOW AT DARLINGTON.

THE BEE DEPARTMENT.

The fifty-sixth annual show of the Premier Agricultural Society of England opened at Darlington on Monday, June 24, and was continued till Friday, the 28th. The meeting will be recorded as one of the most successful ever held, notwithstanding the fact that rain sadly interfered with the comfort of the visitors on the two popular or shilling days, when the attendance, in spite of the drawback mentioned, was something enormous. The unusually large acreage of Hummerstock Park—lent for the meeting by Arthur Pease, Esq.—however, afforded ample room and to spare, both for the exhibits and those who went to see and admire them. The attendance for the five days of the show exceeded 100,000.

The week began most auspiciously in brilliant summer weather, which continued unbroken till the afternoon of the third day. On Tuesday the Shahzada paid what we supposed would be the first visit in his life to an Agricultural Show, and judging by the intelligent interest he seemed to take in the various exhibits inspected, no doubt he will carry back to India some novel ideas regarding agriculture not generally current in Cabul. An interesting little event, arranged for at the request of the Royal visitor, took place close to the bee department. This was a view of the method of sheep-shearing by the new mechanical process, and the astonishment of Nasrullah Khan himself and of the dusky Afghans of his suite was very visible in their countenances while watching one man quietly turning a handle as the shearer worked his little cutter round and about the sooty fleece of a long-woolled sheep, and in a few minutes turned the animal out of its own coat apparently as astonished as the Indian onlookers, and hardly knowing itself after the close crop it had undergone.

The fleece (all in one piece) was removed from the sheep's back, neatly rolled and tied up ready for market, we suppose, and shown to the Shahzada all in about the space of half a dozen minutes!

The Royal Afghan visitor afterwards made a tour of the showyard, under the guidance of the Hon. Cecil T. Parker, Honorary Director of the Show.

On Wednesday the Duke and Duchess of York visited the show-ground, and spent some hours inspecting the chief objects of interest, besides witnessing a parade of the prize animals from the royal enclosure at the Grand Stand. Indeed, the whole show was a very notable and successful one, marred only by the sad fatality which occurred on the afternoon of the 26th. The heat during that day had been intense, and about five o'clock in the afternoon, shortly after the departure of the Royal visitors, a brief but violent thunderstorm broke over the ground. A flash of lightning was instantaneously followed by a terrific thunder-clap, startling in its loudness, and it soon became known that five persons had been stricken down by the electric fluid, two of the number receiving fatal injuries; the others, though rendered insensible, eventually recovering.

On Thursday and Friday, as already stated, rain fell heavily during the afternoon of each day, but beyond lessening the attendance caused nothing worse than temporary discomfort to the crowds of visitors who flocked to the show.

THE BEE DEPARTMENT.

The main interest of our readers will doubtless be centred in the Bee Exhibits which were sufficiently numerous to necessitate an extension of the amount of shedding this year. Altogether the display of bee-goods and of honey was satisfactory and creditable. The honey classes suffered more or less—as they always do at the "Royal"—owing to the early date on which the show is held, and this fact should not be overlooked when comparing it with shows held a full month later. The entries were rather less than last year, though the number of exhibits staged would exceed those at Cambridge in 1894, owing to fewer exhibitors taking advantage of the withdrawal clause.

CLASS 319. *Collection of Hives and Appliances* (5 entries).—In this important class each of the manufacturers competing staged a large and varied collection of well-made goods. Messrs C. Redshaw, of South Wigston, and W. P. Meadows, of Syston, again competed along with two dealers from Yorkshire, whom we were very pleased to see upholding local prestige, in the persons of Wm. Dixon, Leeds, and A. C. Jemieson, of York. The two first-named had a very close run for premier place—very few points parting them at the finish, while Mr. Dixon made a good third. Mr. Jemieson's collection, too, though smaller than the others, was also a good one. In view of the heavy cost involved in staging collections of appliances, it may be worth considering whether the schedule in this class could not be made a trifle more elastic at the discretion of the judges. With a small entry two prizes of £5 and £2. 10s., respectively, are, no doubt, good and all-sufficient, but when a larger entry is attended with a keen and close competition it would, to our mind, be more satisfactory and do more complete and all-round justice if the sum offered in prizes could—to meet the condition above noted—be divided into three prizes instead of two, where, in the opinion of the judges, such a departure was desirable.

In Mr. Redshaw's 1st prize collection all the hives were admirable alike in wood and work-

manship. Our main attention, however, was directed to finding out what was new in the collection. In this line there was here a neat case of polished pine for staging at shows either two "standard" or three shallow-frames of comb in competition, or it could be adapted for showing two standard combs with queen and bees as an observatory hive. Neat and useful single-glazed cases for staging shallow or standard frames of comb-honey in competition were also staged at 1s. 3d. and 1s. 6d. each respectively. Among several other novelties we also noticed an adaptation of the "Porter bee-escape," with a casing of wood instead of tin.

The second prize collection, while uniformly good, was, as is usual with Mr. Meadows, strong in metal-work. Indeed, he has this year introduced metal into his hive-making to a greater extent than ever. Most of the hives staged had porches of sheet zinc, and linings of tin to spaces below the frame-ends in brood and surplus chambers. The suitability or otherwise of metal for these various purposes will be better judged after a summer and winter's trial in the open, but we were surprised that Mr. Meadows' preference for metal did not take the form of using it for roofs, seeing the frequent complaints about hive-roofs not being watertight. That this wideawake manufacturer has not quite overlooked this view was, however, shown in one hive with a roof-covering of corrugated iron, which makes us think the idea will eventually develop in the direction we have indicated.

In Mr. Dixon's collection we noticed a useful little rack, specially adapted for bee-keepers located within easy distance of heather, who only keep one or two hives and do as little manipulating as they can help. It is arranged for working sections and shallow-frames alongside of each other, so that when the heather season arrives a few shallow-frames fitted with full sheets of thin foundation may be set in the centre, and any unfinished sections placed outside of these, thus affording the best chance of getting all completely filled with heather honey, and entailing very little manipulating. Mr. Dixon evidently caters largely for what we may call "villa bee-keeping," his "Leeds" feeder being eminently suited for such. It is a simple but excellent little appliance, forming a winter passage-way above tops of frames; it serves as a rapid feeder, or for candy-feeding; the glass cover affords a view of the cluster of bees without disturbance, or, if a bottle feeder is preferred, the tin trough can be removed and a muslin-covered bottle substituted without disturbing the stage at all.

Class 320.—*Observatory Hive Stocked with Bees and Queen.*—Mr. W. Dixon took first prize in this class with a good hive nicely stocked and well fitted. Mr. Brown's hive, which got second prize, was fitted with filled sections, as was that of Mr. Robinson.

Class 321.—*Best and most Complete Frame Hive* (11 entries).—Some capital hives were staged in this class. Mr. Redshaw's goods were fully up to his usual standard, which means being in the front rank. His three exhibits taking respectively first and third prizes and a high commend. The first prize was awarded to the maker's "W. B. C." hive, embracing every little improvement that experience can suggest. As staged, the hive consisted of body-box, section rack, with hanging frames, shallow-frame box, new super-clearer, fitted bee-escape; queen-excluder; roof fitted with cone-clearers; stand; with lifts and outer cases for the whole. The price (24s.) may be considered high, but, with the very complete fittings included, it is a cheap and good all-round hive. Mr. Meadows got second with what he calls his "X. L." hive, with loose outer cases on "W. B. C." plan. The hive as staged here had embodied in it several alterations since he won first with it at Cambridge last year. Among other things we observed at back of floor-board was a new idea in shape of a ventilator of perforated zinc, covered—when desirable—with a shutter fixed below. This allows a current of air to play about the inner hive, keeping it cool in summer and driving off dampness in winter. It also contained body-box, hanging frame section-rack, and box of shallow-frames with wide ends, the whole priced very low at 21s. Mr. G. Puttergill received a H.C. and Messrs. Lanaway & Sons were commended for good substantial hives of the solid class preferred by some bee-keepers.

Class 322.—*Most Complete Inexpensive Hive for Cottager's Use* (11 entries.)—Among some capital hives staged here, it was plainly evident that several exhibitors had overlooked the fact that the class is specially intended as one for a cheap hive, suitable for the use of cottagers, and that the judges are supposed to bear this in mind when awarding the prizes. This has not been sufficiently appreciated by some exhibitors of late years, for hives priced at 16s. or 15s. cannot be considered as meeting the requirements of a cheap cottager's hive, and they lose points in consequence. The first prize went to Mr. Redshaw for an excellent little hive (price 10s. 6d.) suitable for taking to the moors after the earlier harvest is over. Nothing better than this could be wished for, so far as a cottager's needs. Mr. Meadows' 8s. 6d. hive, which took second prize, was also a capital one for the purpose. The roof, with its covering of corrugated galvanised iron, pleased us immensely, as already stated in our reference to it above. In every respect, this was a true "cottager's hive." The third prize—also awarded to Mr. Redshaw—was for a hive priced at 8s. 6d., and a complete little article for the money. Mr. Jemieson took a high commend for his hive at 12s. 6d. This, also, was a very good article; but as we have said, getting too high in price for this class.

Class 323.—*Best Honey Extractor.*—Prizes

offered by Mr. T. W. Cowan (6 entries).—Mr. Meadows carried all before him in this class, taking first, second, and h.c. for his three exhibits. The first was given to his Cowan Extractor with reversing cages, and fitted with gearing and cover. The price (50s.) of this machine no doubt places it beyond the means of many, but as an Extractor of the highest excellence, it will not be easily surpassed. The second prize was awarded to one of the maker's well-known "Guinea" type of machine, with chain-gearing and cover, bringing the price up to 30s. The "Raynor," with "Cowan" gearing and cover, price 40s., only received a h.c., because of the "Guinea" being better adapted for extracting unfinished sections.

One of the non-placed machines we noticed was fitted with an iron cage altogether too strong and heavy for the purpose, the cage alone being as heavy when empty as it should be when loaded up.

Class 332.—*Useful Inventions connected with Bee-keeping, introduced since* 1893 (16 entries.).—The unusually large entry in this class produced nothing very notable or striking. Mr. G. W. Hole received a bronze medal for his self-hiver. We should, however, like to see some improvement in the "make" of the "hinge-plates" of this useful contrivance before it is done full justice to in regard to its effectiveness for the purpose. The little falling-doors don't work perfectly, and may cause partial failure. Apart from this fault—and, being entirely a fault in making, it should not be difficult to overcome—this hiver seems far more likely to meet the long-felt want of a good appliance for the purpose than any yet brought out. Mr. Jemieson's "multum in parvo"—or, to put it in English, "much in little"—which had a certificate of merit awarded to it, justifies its appellation, for it is quite a collection of bee-appliances in itself. It serves the purposes of shallow-frame box, section-rack, rapid feeder, slow-regulating feeder, candy and dry sugar feeder, chaff cushion, and winter-passage provider. No doubt many bee-keepers would prefer to have a separate appliance for each of these purposes, but here is one that answers for all, and no doubt will answer well, too. Mr. H. M. Bryans also got a certificate for his new super-clearer. This contrivance—though not nearly so simple as those of the "Porter" type—has the advantage to timid bee-keepers of enabling the operator to clear the super automatically without raising it or disturbing the bees at all. Of course, this means providing a clearer for every supered hive, but once on, the simple turning of a thumb-screw from the outside cuts off a lot of entrances to the super by covering them over with metal; the same operation opening a single circular hole in centre of the clearer, through which the bees pass below, and cannot return; so that the super is taken away without a bee being disturbed in its removal. The clearer successfully used last year was staged, and gave much satisfaction to the inventor, which, notwithstanding our preference for the "Porter," we hope to see shared by those who try it.

Among the unplaced exhibits were some interesting items, several of which will, no doubt, be put to a practical trial in the near future. One termed a "Division frame for double-queened hives," was simply a frame close-fitting all round, in which was a built-out comb of worker cells. The careful avoidance of "pop-holes" made up a division-board of comb, and in the bottom edge of the frame were a few holes—too small for bee passage—to give it the character, we suppose, of a perforated dummy. If this "division frame" answers the purpose in other respects, it should certainly conduce to mutual warmth, and go far to ensure a continuous cluster in the two compartments of the hive. After a season's successful trial this device will be better judged on its merits, and should be seen again. Several super-clearers shown, though very good ones, were supposed to have already had their merits recognised at last year's shows, and so were presumably passed by on this account only.

Class 333.—*Interesting Exhibits connected with Bee Culture* (3 entries.)—Mr. Dixon received a Bronze medal in this class for a large and interesting collection of photographs of bees and bee subjects, taken by himself, including some good lantern slides.

THE HONEY CLASSES.

These were not so well filled as last year, but, as the number who availed themselves of the withdrawal clause was considerably less than in 1894, the exhibits actually staged would be greater than at Cambridge. The quality of the season's produce was very good indeed, extracted honey of the current year being especially fine. Some good sections of 1895 were also staged, mainly from southern counties, Kent coming out strong in both comb and extracted honey. It was also very gratifying to note the Technical Colleges at Wye and Swanley among the successful exhibitors. Local bee-keepers, though not unrepresented in the honey classes, were, of course, placed at a disadvantage in the Show being held before their season had fairly set in. They did, however, carry off some prizes in the classes for honey of any year.

The publication of the awards in our issue of last week relieves us from occupying space in going through the honey classes in detail, but we must add a word of commendation regarding the four collections of honey staged in Class 331. Mr. Dixon's display, which took first prize, showed in what good and saleable condition honey a year old may be preserved with proper care. Almost the whole of the honey (comb and extracted) was of last year, yet the sections show hardly any signs of granulation, and the extracted honey looked as if just gathered. Mr. Meadows' 2nd prize

collection was also a very good and tastily displayed one, showing the same good points of knowing how to keep honey in good condition as the first-named one.

The Misses Cooper's collection, which took 3rd prize, was mainly granulated honey, nicely got up, and well staged ; as was Mrs. Kirk's commended exhibit in the same class.

We were pleased to see "Class 328 (*Three Shallow Frames of Comb Honey for Extracting*") with so many as nine entries. This class is growing in favour, and we think that in time it will become one of the most popular in our honey shows. The prize exhibits were good for the season, but no doubt finer finished combs will be seen later on. The three combs exhibited by Mr. Brown (the 3rd prize lot) we were told weighed about 6 lb. each ; the others being also good heavy combs. Taken altogether, enough was seen at Darlington of the quality of the honey of 1895 to warrant us in saying that it will be very good indeed.

For full prize list we must refer readers to last week's issue, and it only remains for us to say that the duties of judging were undertaken by Messrs. J. M. Hooker, J. F. Cribb, and W. Broughton Carr.

A report of the meeting held in the show ground on Wednesday, under the presidency of the Earl of Winchilsea, will appear in our next issue.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2108.] After a long drought we have had a few light showers of rain which has revived the scorched-up vegetation somewhat, but the good soaking rain which goes down to the roots to sustain new growth, and fill the ponds with water for the use of the cattle, delayeth its coming. Still we hope on ; the wild mustard and vetches are about all the forage we have just now ; in a week's time the limes will be in bloom, and the clover fields white with blossom if we get sufficient rainfall ; then with the close of the lime blossom comes the close of our honey harvest in West Berks.

The quality of the year's produce so far has been exceptionally good ; sections well filled, colour uniform—primrose to pale straw—none of the heavy yellow capping I have had in recent years, showing that our flora is changing, and, fortunately, in favour of the honey producer. The crop of 1895 honey varies. According to reports to hand in some places there is a good yield ; in others a poor return for the trouble and outlay of the bee-keeper. I hope the fortunately situated ones who have secured a share of the summer's wealth will not be foolish enough to jump to the conclusion that because they have a few dozen extra sections of honey more than they get in usual seasons the market is overstocked, and that prices will rule low. I offered some fine honey in sections to a customer who replied that they had bought some fine stuff at 7s. 6d. per dozen (my offer was at 10s.). I did not reply for a few days, and before I did so an order came for a good quantity of my sections at the price I offered them at to the firm. I have no wish to "corner" the thing, or make a ring to keep up prices, but I do not see why the actual honey-producer should not reap the benefit of his forethought and labour, and not play into the hands of the retailers. Every trader should have a fair profit on the sale of his goods, whether it be a bottle of pickles, a jar or section of honey, or a box of confections. To bee-keepers I say put your honey up in a clean presentable form. If you don't know how, attend some large show and note my sections, or failing that, enclose six penny stamps to me and I will send you a section (empty) glazed and car paid by parcel post, and for 1s. postal 100 lace papers in addition to the sample section (see advt.).

Early last autumn I had some correspondence with the postal authorities *re* the transmission of living bees through the post. I sent off some queens as I had done for several years previous, and had them returned with an intimation that no living creature could be transmitted through the post. I replied, quoting usage for many years, the loss to the revenue if the queen trade was stopped, and of crippling our growing industry, &c., that the railway charges for small parcels precluded their transmission by that route—also mentioned the large number of queens sent through the post every year, that there could not possibly be any danger to the officials by the bees, as they were packed very carefully to secure safe transit, &c., &c. After some time I received a reply that the Postmaster General had considered the matter, and would permit, as a special exception to the code, the transmission of queen bees through the Parcels Post. This season I have sent all queens per Parcels Post and in reply to a query if the "exception" extended to all parts of the country, I received the reply enclosed, if our Editors think well to publish same. To insure safe transit amongst

the large heavy parcels, I inclose each queen in one of my introducing cages similar to the "Howard" cage (or the Peet Cage U.S.A.).

It is not often that I presume to correct our Editors, but if the healty lot of bees in the "Wells" hive is not infected by the introduction of those bees from the foul broody side of the hive *after only* 24 *hours' confinement*, I shall be very much mistaken (*vide* reply J. G. G., *Loughborough*, 249 B.J.). I wonder if all the holes in the "Wells" dummy were filled with propolis, if not, how can one side be healthy and the other diseased in one hive, when our savants say the spores float by in the air of the hive?—W. Woodley, *Beelon, Newbury.*

[Referring to what our esteemed correspondent terms his "presuming to correct our Editors," and the infrequency with which his corrections occur, we cannot help wishing he had included the present one in the number withheld. In fact, we think that with the full text of the letter—to which our brief reply on page 249 refers—before him he would have deemed his correction unnecessary. Any way, we are content to leave this to the judgment of the correspondent to whom our reply was addressed.

Having said this, we hope to be pardoned for—as gently as we can—correcting our friend Mr. Woodley, in so far as reminding him of what he has no doubt forgotten, viz., that the concession by the postal authorities of leave to send live bees by parcel post was obtained long ago for bee-keepers by the direct efforts of the British Bee-keepers' Association, who appointed a deputation to wait upon the authorities on the subject. Our Senior Editor, Mr. Cowan, chairman of the B.B.K.A., besides being one of the deputation, made direct personal efforts to have the matter placed on a proper footing, and consequently bees have been transmittable in this way for several years past.—Eds]

NON-SWARMING SYSTEM.

[2109.] I have tried the plan referred to by your correspondent, 2104 (p. 255), for a good many years, but I modify it to prevent my having constantly to interfere with the bees. For a "W.B.C." hive I put an eke with shallow-frames under a brood chamber. The centre frames I fill with foundation, the next two-thirds, the next one-third, and put merely starters in the four outer frames. The entrance is the full length of the hive, and I let a current of air in at all sides by supporting the eke on four bits of sections. The bees can build drone comb if they like, but only in the cold outside frames, so that they do not build too much, and it almost always prevents swarming, even with hybrid Carniolans.

In a long hive I put the combs to the back, then two frames full of foundation, then one frame half full, and then two frames with starters. I also pull out the floor board to leave ½-in. opening at back of hive, and I put the quilt ¼ in. back from the hive front. Putting frames with starters ¼ in. apart had practically no effect in preventing drone comb.

I hoped that Mr. Simmins would himself answer Mr. Cockin's letter, and so enhance the value of the reply.—T. F. L, *Brondesbury, June* 27.

[2110.] Most bee-keepers will agree with your correspondent [2104 p. 255] that the necessity of lifting a heavy stock, with super, frequently, off a non-swarming chamber, would be a fatal objection to working the system in the way he himself has attempted. But it is only fair to point out that no such difficulty arises if the system is worked in either of the ways recommended by Mr. Simmins, who explains that the non-swarming chamber can either be drawn out like a drawer from the back of the hive, or may be formed, in a long-shaped hive, by using the six front frames with starters only on which no comb is allowed to be completed; in the latter case the super is, of course, put over the hinder combs, and does not interfere with frequent examination of the front ones. I have tried the latter plan, and, so far, no swarm has issued, while the supers are being filled satisfactorily. I am not clear, however, that the system is preferable in all respects to working with natural swarms.—Burley Beacon.

[2111.] There have been two or more letters in the Journal lately on this subject, and though it is perhaps too early in the season to give an opinion upon the "Simmins" system, it appears, so far as my small experience goes, to work well. I am trying it in a combination hive which holds fifteen frames; six of the frames are fitted with starters. I have had occasion so far to remove but one frame, which was partly filled with drone comb, while the bees are now busy in the super, and honey is coming in fairly well. The objection raised to the system by your correspondent (2104, p. 255) that it is necessary to lift a heavy stock with super at frequent intervals can be overcome by using a combination hive, in which, by looking in from the front, one can see the condition of the frames without disturbing the super, or a hive like Simmins' "Conqueror," in which each body can be separately withdrawn for examination without moving any of the others. — Cestiensis, *June* 29.

BEES IN YORKSHIRE.

[2112.] Just a few lines on the season of 95 in this locality. On the whole, bees came through winter weak, with a few exceptions. Very few swarms have been got in this locality

up to now, though there are a good many bees kept. Some honey is being gathered now. White clover just nicely out, but I have not heard of any being taken off yet. I have been trying a "Wells" hive. I started it when we went to the heather in August last. It did moderately at the heather, one side being much weaker than the other when we brought them home. It, however, got through winter with both queens, and commenced breeding. They then turned the queen of the weaker end out, afterwards raising another and turned it out also. I then joined them for a time, then divided again. They have since raised and turned out another queen, and I am doubtful whether they have one now. There is no brood or eggs, but they work as if they had one. I intend to persevere with this one hive. As you are aware, foul brood has broken out in this locality, as reported by A. R. a month ago. There are over twenty stocks within half a mile, and good pasturage between them; so we shall have to look out. — G. DUFFIELD, *Bilton Junction, Harrogate.*

P.S. — There are several hives hereabout the bees of which are continually scratching one another on the alighting board. Is there anything we can do to stop this? It causes considerable idleness and a little killing off of workers. Should be glad of your opinion as to the cause and cure, if any. I have noticed it for years, more or less, but cannot find any parasites on the bees.—G. D.

DISINFECTING HIVES.

[2113]. The advice given in your last issue by "Thomas Payne" (2103, p. 254) as to using Jeyes' Fluid for disinfecting hives is very good. There can, I think, be no better disinfectant for the purpose. My experience, however, shows that instead of boiling the solution it is just as well to pour hot water on the fluid and use when fresh. This is more simply done and there is less loss of strength from evaporation. If hot water is not at hand cold water will do if *poured on* the fluid and well stirred. The only difference is the solution does not mix so well.—GEO. CHILDE, *Trowbridge, June* 29.

"ROYAL" SHOW AT DARLINGTON.

[2114.] Fresh from the battle, I wish to cross swords with grumblers, and express my satisfaction both as to the arrangements, the judging, and everything connected with the show. After twelve successive years' showing at the "Royal," I must say this one was, in every respect, equal to, if not better, than previous ones. We were very pleased to have friend Huckle with us again. At one time we had our doubts, but he "came up like an old charger," snorting for action, and better when it began. The worthy secretary of the B.B.K.A. reminds me of my old schoolmaster, he gives us a "whacking" at times, but we like him the better for it; and no show has a bee department managed like the "Royal." Our visitors were, taking them altogether, the best lot of people I ever did business with; we scarcely heard a grumble from one. I was exceedingly sorry more of them did not turn up at the meeting, and cannot think how it was, especially as the gathering was entirely in the interests of the immediate neighbourhood. Those present, however, were very pleased indeed with the able manner the subject was taken up by the chairman, Lord Winchelsea. I was very near throwing my hat up and shouting hurrah! I need hardly say how much we should have liked Mr. Cowan to have been there, the chief show hardly seems complete without him, and a few very old friends we generally see in the booth, but taking it altogether we had "a good time."—W. P. MEADOWS, *Syston, July* 1, 1895.

QUEEN-REARING.

[2115.] I send you a brief account of my first attempt at Queen-rearing, and also wish to ask one or two questions. Having a queen of uncertain age in one of my hives that did not do very well this spring, I thought I would try my hand at rearing one myself, and this is *my way* of doing it, and up to the present it has, I think, been successful. I encouraged my strongest stock, with a 1894 queen, to swarm, which it did (preferring a Sunday) on June 16. While the swarm was out, I selected what I considered the best (*sealed*) queen cell, and formed a nucleus with three frames, as per "Guide Book," cut out all remaining queen cells, returned the swarm, and put on the supers. I watched the nucleus daily, and expected to see the queen hatched out in about three days; but not so, she was not hatched when I examined on Saturday evening, June 22, that is six days after forming the nucleus. I did not look on Sunday, 23rd, but on Monday morning, June 24, queen was hatched out, and I saw her on the comb. 1. Was the above method a good one for me to begin queen-rearing? Now, as to fertilisation: To-day, June 29, I was in the garden and noticed a small cluster of bees at the entrance of nucleus hive, so went to ascertain the cause, and there was my young queen apparently just come out of the hive, for she at once left the alighting-board and flew away, when I lost sight of her. I remained by the hive and watched, when I saw her return, she having been away between four and five minutes. 2. Is it possible for queen to be properly fertilised in so short a time? (There were plenty of drones flying at the time). 3. Would mating with one drone be sufficient? 4. How soon can I expect queen to commence laying.—THOMAS PAYNE, *Warley, Birmingham, June* 29.

[1. The method given in "Guide Book" is

as good a one as we can offer. 2. Quite possible. 3. Yes. 4. In less than a week after fertilisation.—EDS.]

AN APPEAL

ON BEHALF OF THE WIDOW AND FAMILY OF THE LATE THOMAS BADCOCK.

Amount received or promised £7. 19s. 6d.

The following sums have since been received:—

A friend...	£4	0	0
Henry Jonas	1	0	0
J. M. Hooker		5	0
A Native of Islay ...		2	6
Total ...	13	7	0

[Any additional donations which may be received up to the close of the present week will be added before forwarding a cheque for the amount to Mrs. Badcock. And we here tender thanks on her behalf to those who have contributed to the fund.—EDS.]

Queries and Replies.

[1308.] *Dividing for Increase. Preserving Surplus Queens.*—I have this season so far had a very interesting time with the bees. I tried the plan of forcing a swarm by putting a queen cell in the top of a skep, but although strong in bees they tore it to pieces. It does not always succeed. Then I find that out of a dozen different trees, ten swarms coming off out of twelve have made for a yew, which shows their decided preference for the purpose they have in view. I saw recently a queen out on her honeymoon and caught her and introduced her successfully to a stock made up. Both the catching and introducing were new to me and gave great delight. Could you oblige by answering the following in next issue:—1. I want to increase by dividing several strong stocks. How late may I do it if I introduce a fertilised queen to the queenless half? I propose to take a strong stock with ten or twelve frames and take five or six frames of brood and honey and make another one, introducing a queen soon afterwards and prevent delay by them in raising one. 2. How may I best preserve surplus queens to sell in a month or two or in the spring?—EXCELSIOR, *Stonehouse, Glos., June* 27.

REPLY.—1. Dividing for increase on the plan proposed above may be done after the honey season closes, say about mid-August. In this case both portions of the divided colony should be stimulated to brood-raising for a month after dividing, so as to rear plenty of young bees for wintering. 2. The only way of preserving surplus queens for sale or use is to form nuclei in which they may be mated and kept breeding.

[1309.] *Bees not Working in Surplus Chambers.*—On May 16 I purchased two hives of bees from a cottager (who lives in a country village six miles from my residence). He informed me that the bees were strong and healthy, and had yielded upwards of 70 lb. of honey last year. Three days after getting them home I put a crate of sections in one hive, and shallow frames in the other (both sections and frames being fitted with "starters.") Although the bees appear to be fairly busy, up to the present time they have only drawn out the combs in their sections, and in the other hive have not gone up into the shallow frames at all. My garden has several fruit trees—apples, pears, cherries, currants, and some chestnut trees in the avenue, all of which were in full bloom when the bees were brought—and at the present time there is abundance of roses, elder blossom, woodbine, &c., out. Is it not singular that they have not gathered any honey? I shall be glad of your opinion and advice.—PROPOLIS, *Carlisle, June* 28.

REPLY.—If you can be sure the bees are "strong and healthy," as stated, no blame need be put upon them for not gathering honey. They will not fail to do their part when the honey is to be had, but—as we have observed to another querist from your own city—the season is very slow at starting this year in the north. We have it on the authority of a well-known Scotch bee-keeper—owning, too, over one hundred hives and located in your neighbouring border county of Wigtownshire—that his bees were only taking to supers in earnest at the latter end of June. The flowers last-named as being in bloom at the present time are of little value as honey plants.

[1310.] *Droneless and Sluggish Bees.*—Can you give me a reason for a hive of bees which is in a perfectly healthy condition—having ten frames covered with bees and an abundance of brood and young bees hatching daily—being sluggish in their movements, not taking the least advantage of the honey flow? I have examined the hive twice during the last ten days and each time failed to discover a single drone. Could this be the cause? I have removed the queen from the hive to-day to give them the opportunity of replacing with a young one.—KITCHNER, *Hallbank Gate, Carlisle, June* 25.

REPLY.—We rather think the fault lies in the "honey flow," not the bees, and that the latter will show none of the sluggishness referred to when nectar is to be had. We are strengthened in this view by reports of the slow start at honey gathering reported from several districts in the north this year. It was a mistake to destroy the queen without enquiring as to the good or bad policy of such a proceeding. The absence of drones is rather in the queen's favour than otherwise, as it indicates her youthfulness—not age as you

suppose—and the absence of any intention to swarm.

[1311.] *Artificial Swarming.*—Enclosed I send you two sample pieces of old comb taken from a hive in which the bees died early this spring (or late in the winter) from dysentery. 1. Will you kindly say whether such combs are fit to be given to bees during the heather season for filling up, or should they be destroyed? 2. I artificially swarmed a stock of bees some weeks ago, and the swarm made five queen cells; one queen I know hatched out, and other cells were destroyed, as I examined the hive and found the queen there, but a few days afterwards I found a queen, which I presume was the same, outside the hive, dead! I then gave the bees a frame of *quite new brood* from another hive, and left them to rear another queen, they did not do so. I repeated the operation, and still they will not form a queen-cell, although they seal up and rear the other brood. There is no sign of a queen in the hive at all, and no brood except the two frames mentioned above, which I gave them. Had I best get a new queen by purchase, as bees are working well and are a fairly strong lot? I cannot understand why they appear to to do so well without a queen, but I certainly can find no trace of one, and I think the dead one I found was the one first hatched.—ENQUIRER, *Sheffield, June* 29.

REPLY.—1. The sample of comb is partly filled with granulated honey. Similar comb would not be suitable for bees at the heather, but should be melted up, and the honey used as bee-food. 2. The refusal of the bees—which appear to be doing so well—to rear another queen, leads us to suppose that they have a queen in the hive already, though not yet laying. We would not advise the introduction of a queen until it is clearly established that the bees are queenless.

[1312.] *Bees blocking up brood-nest with honey.*—My bees swarmed on June 17. I hived them by placing the hive, filled with comb foundation, over the swarm, and they all went up readily. I have examined the hive to-day (June 24), and find *all* the ten frames of foundation drawn, and filled with honey, greater part sealed, *but no brood.* 1. Does this indicate queenlessness? If so, what is the best course to pursue? 2. Shall I insert a new queen, and lift the present combs and honey above the brood chamber, to be sealed, and insert new foundation and empty combs in the brood chamber.—H. DUDLEY ARNOTT, *Gorleston. June* 24.

REPLY.—1. Refer to third paragraph of "Useful Hints" last week, p. 25. The further details given in your case make it very probable that some mischance has happened to the queen in hiving the swarm. It is altogether abnormal for a prolific queen to cease laying after leading off a swarm. A comb of young brood and eggs inserted in the hive would soon test its queenlessness or otherwise as queen cells would be raised if there is no queen now there. See also reply to "Enquirer," query No. (1311). 2. Give no alien queen till it is made clear beyond doubt that there is none other in the hive. In the latter case, remove three or four combs of unsealed honey into second body box below and substitute frames of empty combs. Put the combs of food in lower box on the outside and fill up with full sheets of foundation or empty combs.

Bee Shows to Come.

July 17, 18, 19.—Lincolnshire Agricultural Society's show at Grantham. Thirteen classes and liberal prizes for bees, honey, hives, and appliances.

July 19 and 20.—Bristol District Bee-keepers' Association. Annual Show at Knowle. Entries close July 13. Schedules from Miss Dawe, Hon. Sec., Long Ashton, Bristol.

July 24 and 25.—Cambs. and Isle of Ely B.K.A. At Ely, in connection with the C. and I. of E. Agricultural Society. Entries close July 6. C. N. White, Hon. Sec., Somersham, Hunts.

July 25.—Glamorgan B.K.A. Show at Barry, in connection with the Glam. Agricultural Society. Entries (free to members of the G.B.K.A.) close July 7. E. Thornton, Hon. Sec., Bridgend, Glam.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries closed.

July 25, 26.—Kent B.K.A. annual show (in connection with the Tunbridge Wells and South-Eastern Counties Agricultural Society), at Tunbridge Wells. Schedules from J. Garratt, Hon. Sec., Meopham, Kent.

August 5 (Bank Holiday).—Notts B.K.A. Annual County Show on the Sconce Hills, Newark. Eighteen classes for bees, hives, and honey, with liberal prizes. Several open classes. Entries close July 27. A. G. Pugh, hon. sec., N.B.K.A., 51, Mona-street, Beeston.

August 5.—Berks B.K.A., Newbury District, in connection with the flower show in Shaw-avenue, Newbury. Liberal prizes. Entries close August 2. Schedules from W. Hawkes, Hon. Sec., Newtown-road, Newbury.

August 5 and 6.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Nine classes for honey. *Special open class* for single 1-lb. jar of extracted honey. Five prizes: 1st, silver medal and 10s.; 2nd, 15s.; 3rd, 10s.; 4th, 5s.; 5th, 2s. 6d. Entries close July 25. Robt. Hefford, Hon. Sec., Boughton, Northants.

August 6 and 7.—Staffs. B.K.A., at West Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances. Schedules, when ready, from Harold Twentyman, Wolverhampton.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries closed.

August 15.—Goole and District Agricultural Society. Annual show at Goole. Five open classes for bees and honey. Entries close August 8. J. Luddington and H. S. White, secretaries.

August 15.—Berks B.K.A. (Windsor district) Show, at Maidenhead, in connection with the Maidenhead Horticultural Society. Fourteen classes, with good prizes, for bees, hives, and honey. For schedules apply to the Hon. Sec., W. S. Darby, Consort Villas, Clewer.

August 22.—Show of bees, hives, and honey, in connection with the Horsham Horticultural Society's show at Springfield, Horsham. Entries close August 17. Lectures in Bee-tent by the Rev. C. Brereton. R. Gilburd, Sec., 39, Carfax, Horsham.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

GAMMA (St. Mary Church).—*The "Wells" System.* — Mr. Wells has published a pamphlet (price 6d.), which gives all particulars of his system. Address: George Wells, Aylesford, Kent.

T. GRIFFITHS (West Bromwich).—It is a well-known fact that toads at certain times in the year carry off bees fast, if not guarded against.

Several replies to queries together with conclusion of Mr. Baldensperger's letter (began on p. 253) will appear in our next.

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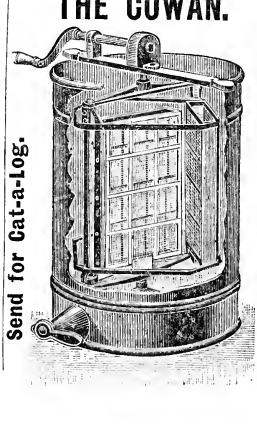

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Editorial, Notices, &c.

EXAMINATIONS FOR EXPERTS' CERTIFICATES.

The periodical season for holding examinations of candidates for the Third Class Certificates of the British Bee-keepers' Association having now opened, the time seems opportune for a few observations bearing upon them, and the changed circumstances under which they are now conducted. Judged by the experience of recent years, this part of the Parent Association's educational work is growing in interest and apparent value, and the recent grouping together of several counties as centres for holding examinations will no doubt add to the list of candidates. But, when comparing the number of certificates actually obtained with the failures, the percentage of the latter is seen to be considerably more than was the case a few years ago. Not that there is any perceptible lessening of intelligence or skill on the part of those presenting themselves — in fact, rather the contrary—but, as we have said, the circumstances or conditions are now very much changed. Up to quite recent years the business purpose for which a certificate was sought, never went beyond the emoluments to be gained by becoming the County Expert, whose periodical visit to members took place in the spring and autumn of each year, and were paid for at so much per day. The qualification for the position usually included ability to undertake "tent work" at shows, and knowledge of such practical work of an apiary as would enable the "expert" to advise members what to do, and "when and how to do it." For such work the main requirements are skill in handling live bees, together with a fair knowledge of their habits. Consequently, it was taken for granted that the man who could drive bees in workmanlike fashion; handle combs in frame-hives with skill and proper care; find the queens quickly, and, in short, get through in fairly good style what are known as the "manipulations" which form one division of the examination, was quite safe for a "pass." Well, to some extent this was true when dealing with the subject on the lines followed a few years ago, but to-day experts' certificates are used for purposes entirely beyond the scope of what was intended when these examinations were first instituted. Technical education, for which public money is voted, has supervened, and the expert's certificate now carries with it a considerably enhanced value as a testimonial of efficiency for work of a far higher character than before. More or less employment is now voted by the Technical Instruction Committees of County Councils, to teachers of, and lecturers on, the art of bee-keeping.

Nor does it stop here. The work is still taking higher ground; for, along with the marked advance made in bee-keeping, and the enormous addition to the number of those taking an interest in the pursuit, what may be called the "forward movement" has brought with it trouble and anxiety to all concerned, in consequence of the increase of foul brood among bees, and the imperative necessity for obtaining powers for dealing with it. This again lifts the question of "experts" on to a higher plane; for if compulsory powers for dealing with bee-diseases are obtained by legislation, Inspectors will be needed for carrying out those powers, about whose qualifications there must be no shadow of doubt. One of the proofs of this will be the possession of a certificate of proficiency from the only body in this country at present recognised as having the power to grant such, viz., the British Bee-Keepers' Association.

These are among the "altered conditions" surrounding the question of experts' certificates to-day, and we have probably indicated enough to emphasise the need for would-be experts—when preparing for an exam.—acquainting themselves with some knowledge of the craft beyond the manipulative ability already referred to. To put the matter plainly, it may be explained that the examination consists of three divisions. (1.) *Manipulations.* These are briefly explained above. (2.) An *Oral Examination*, embracing the whole subject of practical bee-keeping. (3.) A special exam. on Foul Brood. In specifying these several divisions, and slightly indicating the character of each, it is far from our purpose to magnify the difficulties to be encountered, our desire being to assist candidates

by preparing them for what they have to undergo, so far as removing the—all too frequent—impression that mere "manipulating" alone will carry them through. This feeling was painfully prominent at a recent examination—in which the writer took part—wherein otherwise competent candidates were unavoidably "failed" for lack of knowledge, which a few hours' study of "Cowan's Guide Book," or some other good work on bees, would have furnished them with. The curious part was that every one of the candidates possessed a "Guide Book," and had read it, too, but with no special attention in view of the examination, because of not having any fixed idea as to what particular points—if any—importance would be attached. There seems, to our mind, something approaching to unfairness in this to candidates and examiners respectively, and we cannot help sharing in the regret expressed that some reasonably clear intimation of what is required has not been formulated by the Association for the use of candidates, which would make plain to the latter the main points on which the examinations are based. So much of general intelligence, to say nothing of aptitude for acquiring bee-knowledge, was displayed by several of the candidates on the occasion referred to, that it was positively painful to think how different a complexion would have been put on matters if it had been made directly known beforehand what was expected in the way of special study for the *oral* or *viva voce* part of the business, which seemed to come upon some of them as a surprise. "A half day's study of 'Cowan's Guide Book,' with the experience I have just gained with yourself," remarked one of these, "would have made a difference in my case." And we have no doubt it *will* have made a difference when the gentleman referred to comes forward again, as he good-humouredly declared he would at the earliest opportunity available.

These remarks are not intended to convey the impression that the third-class examination is a very terrible ordeal to go through; quite the contrary, nor is there any need for a tedious course of "cramming" to prepare for it. We only wish to place the matter on a clear footing, and make it plain that more—much more—is needed now than was deemed necessary before the altered conditions arose. We read in the annual report of the B.B.K.A. that "all information respecting examinations may be had from the secretary," and on pages 29 and 30 of the same report will be found full particulars of what has indirectly led to the penning of this article, in concluding which we may observe that the not unimportant position now held by our experts in connection with county council work, and the still higher places possibly in prospect for the holders, render certificates worth working for, while the responsibility of the association which grants them is correspondingly increased. These facts make it doubly necessary that only persons really qualified should receive the coveted parchment.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of June, 1895, was £9,926.—*From a return furnished by the Statistical Office, H.M. Customs.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appeare.*

BEE JOTTINGS.

FROM HIGHWAYS AND BY-PATHS.

[2116.] *Heredity in Bees.*—Your correspondent, Mr. C. Clutterbuck, on p. 233 of B.J. for June 13, requests my views on this subject. Well. I have had a "think" over the matter. While bound to admit the force of the argument in favour of heredity, and of the very many sequences which tend to support the theory propounded by Mr. Grimshaw (B.J., March 28, p. 122), yet I cannot disabuse my mind of the fact that the whole question of heredity is theory, and theory

only. There may be corroborative correlation, perhaps, of the strongest kind warranting one in arriving at a conclusion in a measure satisfactory, but I must confess I cannot find it, and although fairly well acquainted with the works of Darwin, Lamarck, and others bearing on evolution, &c., I see nothing in them which enables me to give a positive opinion on the subject, and indeed, it was this happy state of uncertainty which made me regret that those whose opinions have become fully developed with regard to this interesting matter, did not feel disposed to give those of us who are in the transitive mood, the benefit of such opinion. When the busy season with the bees is over, I am hoping to go further into the matter. Meantime, perhaps that good old comrade of B.B.J. readers (Mr. Grimshaw), will give us his further views—seeing that the question is his, and not mine—on the point raised by Mr. Clutterbuck.

About Queen Rearing.—Mr. Clutterbuck also asks (on page 246) a few questions as to queens raised under the swarming impulse being impressed with a swarming tendency. From what I have already said, Mr. C. will gather my unpreparedness to admit that this is so. I would rather say, that certain strains of bees possess certain characteristics of their own which according to Darwin and others, are evolved and strengthened from generation to generation until they become fixed traits or prominent peculiarities of the species. But it by no means follows that these are fixed characteristics. Members of the same family may be—and often are—as unlike as possible in many phases of character, yet, if the strong trait which is the marked characteristic of the strain is absent from individual members of the same family, the theory of Darwin and others becomes faulty. My argument is that if queens are raised from stocks that have never swarmed, that particular trait will not be a marked characteristic of the resultant bees. In fact, queens raised by such bees will have little chance of being impressed with the external conditions existing at the time of parturition. Here, again, I admit not having yet studied this phase of the question sufficiently to give a decided opinion regarding its bearing on the swarming propensity of some races of bees. I have, however, made a mental note on the point as one for further consideration and hope to go into it later on.

"Why do I consider finer queens can be produced with a laying mother present in the hive?" is another question put to me by Mr. C. Well, my reasons are—first, because of having proved that it is so; second, because the queens are raised from selected larvæ, and not from larvæ of bees possessing the swarming propensity; third, because the queens are raised not of necessity, or by compulsion, but willingly, and from choice, and under an entirely different set of circumstances to those brought about by the swarming fever. Deferring, for the time, my usual "by-way jottings," I will endeavour to make clear how this state of willingness to raise new "mothers" is brought about. In my former articles on queen-rearing, it was explained how a stock should be brought into flourishing condition, and how I proceeded to place brood in the doubled hive, &c. Now, in due course the brood in the chamber above being crowded with bees, and no unsealed brood therein, the queen being limited to a certain extent below, I find, on placing a frame of artificial cells above, that the bees almost immediately begin to fashion them into perfect queen-cells, and why? Well, my opinion is, because they are under the impression that the old queen below is getting worn out, or failing; and seeing that brood is decreasing in the upper chambers, it behoves them to take steps to get a new mother there. It is well known to old hands at our craft that a finer queen will be raised when she is intended to supersede a failing one. There is, then, no raising of queens from larvæ of all ages; no undue haste, which is clearly shown by my rarely having a queen come forth from her cell until well into the seventeenth day from the laying of the egg! The above facts I have had the opportunity of verifying every week—I might say nearly every day for the last two months.

Mr. C. is not correct when he says I conclude "that when rearing a queen in the ordinary course, &c., the bees do not first make a queen cup." I never remember saying this. If I did, however, I am going to take it back, as such is certainly not my experience. I find plenty of cups made; but what I do say is that *I have never yet seen a queen lay an egg in such a cup*, and until I see her do this I am not going to admit anything to the contrary. They may be eventually used for raising queens even, but I would rather favour the supposition that bees will transport eggs or larvæ thereto for that purpose, although I have never caught them in the act. There are, however, instances on record from various sources where bees have been found to transport eggs for the purpose of queen raising, so that the late Mr. Cheshire was not quite correct in stating, on page 287, vol 2, of "Bees and Bee-Keeping," that "practically eggs must hatch, and the larvæ must be brought up where the former were laid." Although the language in this particular chapter is carefully guarded, I think I have proved at any rate that he never contemplated queen-rearing in artificial cups when he wrote the paragraph in question. I might draw attention to several other points in Mr. Cheshire's book which are not quite "up to date," but we must remember that fresh facts are being discovered every day, and, like most other things, bee-keeping is advancing, and in view of this it would neither be fair nor in good taste to criticise the excellent work of one who is no longer among us. Nor should I have mentioned his work now in a contro-

versial spirit, but that Mr. Clutterbuck quotes from it in support of his theory.

In the particular instance under your correspondent's direct notice referring to a queen-cup containing an egg, I note, he says, "evidently deposited in the cell for the express purpose," &c., it is not stated by whom, nor is there any evidence of the queen having laid it there. I gather, too, from Mr. Cheshire's book that he too was in the same predicament. It cannot be said the queen does not lay eggs in queen cups, but my impression is that if she does, it is simply because she has eggs to lay and *the queen cups are the only available cells.* It is well known that a queen, if cramped for egg room, will lay four or five eggs in a single worker cell.—H. W. BRICE, *Thornton Heath.*

RIVER PLATE HONEY.

[2117.] Having sent you samples of River Plate honey through Messrs. Frost & Co., of London, and same having been those referred to in your Journal of May 2 of this year; as a subscriber to your valued paper through my London agents I take the liberty of requesting you to favour me by answering the following questions:—1. From what flora, if any, was such honey obtained? 2. Might it not have been from honey-dew? 3. Could it have been procured from peach-refuse thrown out during the packing season from the factory in which I am interested, and close to which my apiary is situated? At my partner's apiary, situated about twenty miles from mine, all his sections contained almost transparent honey, and of a beautiful flavour. My chief object in sending samples of honey which I knew to be of a very inferior quality was to ascertain, as I expected to do, your opinion as to the source from which it had been obtained.

In these islands of the Delta of the River Plate, my partner, Mr. Lawrence, and myself have been the first to introduce the bar-frame hive, and our success has been such that, in a little more than two years, we find ourselves each with fifty strong colonies.

This past season my (to be exact) fifty-one colonies gave me 2,016 marketable 1-lb. sections, and 377 lb. of pressed honey, which result may be, I suppose, considered satisfactory. About one-third only contained the inferior honey already referred to; but even so this is a serious loss, and unless I am able to prevent the bees from gathering it, I think my best plan will be to send my colonies over to my partner's apiary.

The sections you refer to as being so beautifully white and clean came, as nearly all my bee material does, from Messrs. Abbott Bros. Apologising for troubling you with so lengthy a letter.—JAMES H. HUNTER, Tigre (F.G.N.), *Buenos Ayres, June* 12, 1895.

[We are very pleased to receive the above. It affords an interesting—and, no doubt, perfectly accurate — explanation of what puzzled us much at the time. The honey referred to when shown at the B.B.K.A. *Conversazione* was adversely—but fairly—criticised by those present. Its odour was simply vile, as we and others thought, and in the flavour we could detect no trace of the nectar of any flora with which we were acquainted. It did, however, remind us in some way of rotten fruit; and our correspondent's mention of "peach-refuse" supplies the missing link. We fortunately have one of the sections sent still by us, and on re-tasting can distinctly trace the decaying peach flavour in it.

On the three points enumerated for reply, Nos. 1 and 3 are answered in the above, and for the second, we do not find any resemblance to honey-dew (at least of this country) in it. We congratulate our correspondent on his success with bees in the Argentine.—EDS.]

BEE-KEEPING IN PALESTINE.

(*Concluded from page* 254.)

They have adopted nearly every description of trade, and have founded several business establishments. Many of them cultivate the land, and their plantations of trees and vines are splendid, and the same can be said of their gardens, the work being done with great care. Bee-keeping is carried on in one of their colonies by ten colonists. The hives, of the German style, are placed on benches formed of boards, in a shed covered with tiles, but open to the front. Some leave their hives standing in the open, and one of them, a bee-master and bee-keeper of long standing, stands at the head, having 100 hives. They do not migrate with their hives as we do, but simply harvest what the bees gather on the spot. They are good workmen, industrious, and generally honest, minding only their own business, respecting every one, and living on good terms with strangers, but convinced that the first rank in Paradise is reserved for themselves.

The honey harvest from orange blossoms is now over, but it has been good, and we have now moved our apiaries to different localities. These consist of thirty-five to forty hives each. Our next bee-forage is from the flowers of *Agnuscastus.* The plant is called *Ghar* by the natives, and is known in the south of France as wild pear. It grows in Palestine along the banks of the rivers, and with its green foliage and blue and lilac flowers embellishes the water-courses and Wadys (the beds of the rivers which receive the water during the great rains and which are dry during summer). These Wadys with their banks (in some places 80 to 100 mètres wide) are not cultivated. They cross the plains and lead to the sea, and their course is easily seen from a distance, owing to the verdure of the *Agnuscastus.* The flowering season lasts from seven to eight

weeks, during four of which the yield of honey is abundant, and this plant may be considered as one of the best, although the honey is not extra fine, but as for quantity, it is not to be despised. It is generally sold on the spot, as the natives are very fond of it; for the very good reason that it costs less than other honey.

In some stony and rocky localities we obtain very good honey from a species of horehound.

Three of our apiaries are situated by a village in the plains, distant from Jaffa four hours on horseback. This village is called Im Ghar, and it is the ancient town of Makkedah (Palestine Exploration Fund, July, 1875). The town was taken by Joshua the Great, Commander of Israel and conqueror of Palestine (Joshua 10, 28), and the inhabitants were killed as well as the five kings of the Canaanites who hid themselves in a cave near the town. The pasturage near the village of Im Ghar is indifferent, and this decided my brother after the discovery of the Agnuscastus as a bee plant, to establish an apiary there. "Im" means mother, and "Ghar" laurel, or the mother of laurels. Please remark that the Arabs give the name Ghar to the Agnuscastus, and this name it bears in all the country, but it is an error (many others exist in our land), as the word Ghar is the correct one for laurel. Lieutenant Coador says in "Palestine Exploration Fund" that the name of our village is derived from Monghar (cavern). He may be right, but we are fortunate in having found so rich a pasturage, thanks to the supposed name of "mother of the Agnuscastus." After the honey harvest from this plant, our bees find pasturage on thyme covering the sides of the hills which rise from the plains on one of which the village of Im Ghar or Monghar is built.—JEAN BALDENSPERGER, *Jaffa, May 7*, 1895.

HONEY SHOW IN KENT.

The honey at Farningham, on Wednesday last, July 3, on the occasion of the annual Rose Show, was quite a credit to the locality. Exhibits were numerous and generally excellent. It shows that bee-keeping is advancing in the neighbourhood, and that cottagers are taking up the work, for the four winners in the cottager classes are all first year's men with the modern hive. The Horticultural College had a fine Stewarton super displayed. Mr John M. Hooker acted as judge. The following were the awards:—

Twelve 1-lb. Sections. — 1st, Rev. G. W. Bancks; 2nd, E. Longhurst; 3rd, The Horticultural College, Swanley; h.c., R. E. Tudor.

Twelve 1-lb. Jars Extracted Honey.—1st, E. Longhurst; 2nd, The Horticultural College; 3rd, H. Bates; v.h.c., E. D. Till.

Shallow Combs for Extracting. — 1st, E. Longhurst; 2nd, R. J. Bradshaw; 3rd, Rev. G. W. Bancks.

COTTAGERS ONLY.

Six 1-lb. Jars Extracted Honey.—1st, H. Bates; 2nd, G. Sutton; 3rd, R. J. Bradshaw.

Six 1-lb. Sections.—1st, H. Bates; 2nd, H. Goose.

Prizes in three last-named classes given by the Kent Bee-Keepers' Association.

Kent bee-keepers have had a good season. We hope they will at once send liberal entries for the K.B.K.A. annual show at Tunbridge Wells, and make a really fine honey exhibit at that populous centre.—(*Communicated.*)

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on 4th inst. Present—Captain Millner (in the chair), Mr. Gillies, Mr. Govan, and Mr. Chenevix (hon. sec., 15, Morehampton-road, Dublin). The report of the sub-committee appointed to revise the conditions on which experts' certificates are granted was accepted, and some important details were settled as to the next examination, which will be held at Strabane on 24th inst., the first day of the show.

AN APPEAL

ON BEHALF OF THE WIDOW AND FAMILY OF THE LATE THOMAS BADCOCK.

Amount previously acknowledged	£13	7	6
Friend at Farningham	0	5	0
George Roberts (Broad Green) ...	0	5	0
W. J. Anstey	0	5	0
W. H. Harris	0	5	0
R. Illman	0	2	6
Total ...	£14	10	0

Queries and Replies.

[1313.] *Dividing for Increase.*—I have some eighteen bar-framed hives, only one of which has swarmed, and in this case the swarm was lost; so for increase I must depend upon dividing later on. I had intended to have formed nuclei, but am disappointed, and would be pleased if you would describe to 1,308 query (p 267 of last week's B.J.) and myself particulars—(1) The manner how; (2) the time when; and (3) the stimulating formula.—ADAM MARSH, *Winchester, July 6*.

REPLY.—Our querist of page 267 proposed to divide the brood and combs of several strong stocks into two parts, leaving the present queen with one part and giving a fertile to the other. The only question was, "How late could it be done?" Mid-August was the date given in reply. If the same course is intended to be followed in your case we reply (1) provide a new hive, remove the old stock a little to one side of its present

stand, and set the new hive a little to the other side, so that the flying bees may divide themselves between the two. Divide the combs as stated, between the old and new hives, and give as many of the young bees as possible to the queenless half to which the alien queen is introduced. This is done by shaking them from the combs and allowing them to run in at entrance. If the queen is purchased from a queen-breeder, instructions for introducing will be (or ought to be) furnished along with her. (2) Time is stated above. (3) "Stimulating" means slow and continuous syrup feeding by the use of a "regulating bottle-feeder," to be had from any dealer for about 1s. or 1s. 6d.

[1314.] *Treating Swarmed Stocks.*—I treated a swarmed stock as follows yesterday, and should be glad to know if I did right, or where I was wrong, as it was my first swarm. I did not want increase this year to my three colonies, nor that, in returning the swarm, it should re-start queen-cells and swarm again, but that work in the supers should go on without interruption in this fine bee-weather. Also I shall want two young queens in the autumn, but to make nuclei I had only one hive with one entrance. The stock was on ten frames, with plenty of brood on eight of these, and had five completed queen-cells, two capped and three uncapped, with a little royal jelly left in one. I took from it five frames, with brood and honey and one capped queen-cell, and put them, with adhering bees and the bees from two other frames, into a hive placed away from the parent one, and packing well with felt quilt and cork-dust bag. The parent stock had therefore remaining two outside combs and three brood-combs. I gave it two frames of foundation, wired, and a partly-drawn-out comb, making eight frames in all. I had previously cut out all the remaining queen-cells. I returned the swarm, which had been hived in a skep, in the evening. The bees this morning were up in the two boxes of hanging-section, and foraging as usual. 1. Are the above arrangements right for the objects named? 2. Should I have given the two capped queen-cells, instead of one only, to the nucleus? I thought there might be some disadvantage in more than one re-swarming. 3. I propose to give the nucleus a frame of brood on the seventh day to prevent the bees swarming out with the young queen on her flight. Is this the proper time, and may it be capped brood, or *must* there be eggs and *uncapped* larvæ? 4. Shall I be right in returning to the stock hive in a few days two brood-combs from the nucleus, without the bees on them, thus leaving three combs in the latter? My object in giving five frames to the nucleus was to deprive the stock hive of sufficient brood at first to lessen the chance of preparations to swarm again, but as they have a heather season to go through, I must keep them strong. 5. Would it be better to utilise the young queen, if successful, before sending hives to heather, or on return? 6. Is there any safe way of uniting a small nucleus with queen to a stock made queenless, or is it better to introduce queen by the ordinary methods, and unite the nucleus bees a day or two later? 7. How came the three uncapped queen-cells and only two with queens in? All the combs were built last year, and had no queen-cells, or remains of them, at the end of last season. I had an old bee-keeper helping me in examining for queen-cells, and I am certain we missed none, going through the frames twice.—F. S., a Lancashire Novice, *July 7.*

Reply.—1. Yes, perfectly right. 2. Only in case of any uncertainty as to perfect "ripeness" of the one chosen. The disadvantage you refer to is not worth taking into account. 3. Yes; but the brood given should be *uncapped.* Eggs are not necessary. 4. This is not usual, but cannot do any harm—and may do good—for the purpose intended. 5. It is advantageous to take young queens to the heather. 6. It is quite easy to do this by using a little scented syrup made very thin; but if any fear is felt for the safety of queen, cage her for twenty-four hours when uniting. 7. There are no means of safely accounting for this. We can but suppose either that one egg had "missed," or that the larvæ had failed in some way.

[1315.] *Taking Bees to the Moors. Sections for Showing.*—1. Will you kindly state in Journal the breed of enclosed bee, and why have they such a propensity for stinging one many yards from their hive? My pure Italians and blacks do not attack me, and I have ten or eleven stocks. 2. What is the usual (average) date for taking hives to heather in Cumberland and Durham, and how long do they usually remain? 3. In preparing section honey for exhibition in glazed cases, do you gum the fancy paper inside the glass (on it) or on the margin of the section itself? 4. Are "pop-holes" a bar to prize taking.—Ajax.

Reply.—1. Bee sent is a hybrid Italian. It occasionally happens that first cross hybrids are viciously inclined. It cannot be accounted for. There is no remedy save requeening. 2. About first week in August is the usual time for taking bees to the moors, and the second or third week in September for the return journey. 3. The "edging" is fixed on the outside, the lace portion extending over the glass not more than $\frac{3}{8}$ in. We prefer some sort of paste like that known as "Stickphast," to gum for fastening. 4. Yes, "pop-holes" are a decided bad point in sections for showing.

[1316.] *Preventing Swarming.*—I started bee-keeping last year, but too late to do any good, so this season is practically my first season, and I have three doubled stocks of from fourteen to seventeen frames standard each, arranged one above the other as shown by the rough sketch below. The wide-

dummies, AA, at front and back of upper hives—now forming surplus chambers—are light box-dummies, equal to about three frames, to be taken out if more room is required for storing surplus. B in lower hive, or brood-chamber, is empty space with close-dummy and cover of oilcloth, used simply to reduce the size of hive when doubled. The six frames in front of nine rear ones in lower hive are fitted with "starters" only. A sheet of queen excluder zinc divides the upper and lower chambers. The frames in both upper and lower hives are all "standard" size, as I have no others. I am trying to prevent swarming. My queens are all of 1894, except one of 1893. Like your correspondent C. E. Cockin, in B.B.J. for June 13 and 20, I am troubled by the bees building drone-comb on the "starters," and the queen generally lays in the newly-built cells, which makes the matter worse. If I change the starters for full sheets of foundation, the bees draw it out, and the queen takes possession, and the brood-nest gets enlarged, and my super suffers through the bees having too much brood to care for. I think you will understand my present position from the description given. I, therefore, ask—1. Would it be advisable to put full sheets of foundation in front of the combs of brood-nest, and remove them when built out and partly filled with worker eggs, putting them into my other hives, which are building up into stocks? 2. May I put a dummy between brood-nest and starters, with bee-space at the bottom? This will allow drones to pass out from below, and may deter the queen from so easily finding the new built-out drone-comb. My third question does not relate to the above, but is on another tack. How must I proceed to extract from combs built this season from starters only? I fear they will break in the operation. 4. How can I wire combs, built from starters, for future use? 5. Would it answer to wire frames with starters, and let the bees embed the wire in the comb in building it out?—NON-SWARMER, *Blackburn.*

REPLY.—1. No; we should use starters only, as advised by Mr. Simmin, whose plan of preventing swarming you have adopted. 2. You might try this, but we do not think it will have the desired effect. The idea is to give plenty of unoccupied space in brood-nest, but cutting the latter off from the uncombed frames nullifies it. 3. You will have considerable trouble in extracting safely from just built-out standard frames of combs. It is done by removing part only of the contents of one side, then reversing and extracting the other before completing the first side; great care is, however, needed in avoiding a break-down. 4. To use the quaint expression of an old bee-keeping friend of ours, "It can't be did!" 5. This plan is open to many objections. Our advice is, "don't try it."

[1317.] *Dead Bees in Supers.*—Over a brood-chamber of seven frames full of brood and honey, sealed, I placed, about a week since, a super of six shallow frames, with full sheets of foundation on the top of excluder, and under a crate of twelve sections, some of which were sealed. On looking at them to-day (July 2), when the bees were having a turn out, I found nearly a pint of dead bees amongst the frames and on the excluder, and as many more living and able to fly. The foundation in five frames is more or less drawn out, the best one having nearly 1 lb. of honey in it. There was a beeway under all frames, excepting one. The bottom bar having bent downwards, the bees had fastened it to excluder. The bees in the hive in question—although nearly twice as strong in numbers in March last—have not done half so well as my other hive on the same stand; owing, I expect, to their having covered the alighting board from morning until night in clusters of two and more bees cleaning or doing something at another bee, which treatment the latter does not appear to dislike. Yet, in time, all the hair is pulled off, and they are then turned out, black, dead, or dying. I enclose a box full of bees as taken from the supers, and you will see some black and others partly so. The ground in front of this hive is daily covered with dead bees. A fortnight since I washed a new hive out with hot water in which some naphthaline had been dissolved, and when dry put the bees into it to see if that would do them any good, as this waste of time and bees has been going on since early in April. I also put two balls of naphthaline on floor-board as per instructions. To-day I have given two more, as there was only one bit left. Can you tell me the cause of death, and if any cure? There are others in the neighbourhood who are affected by this same business, but not in such a bad way. We should very much like your opinion on the subject.—R. B., *Harrogate.*

REPLY.—We rather suspect some defect in your supering arrangements is the cause of death. The bees sent have, by their appearance, apparently been unable to pass from the surplus chamber below, as all the pubescence—or natural hairyness—has been worn off their bodies in their efforts to free themselves. We should thoroughly inspect the means of communication to see if all is right, as we fear it is not.

Echoes from the Hives.

Honey Cott, Weston, Leamington, June 29, 1895.—The last month has been good for honey gathering, though the variable temperature has, no doubt, impeded the honey flow to a certain extent, in requiring some little time and trouble wrapping up supers to keep them warm against cold nights. I have taken off some nice sections, and a rare lot of shallow

frames of sealed honey of good colour and fair quality. I worked one hive for extracted honey with standard frames 1½ in. wide. I weighed one frame for curiosity, it was 9½ lb. We are now getting a little showery weather, which will start the white clover growing up, if we can but get enough of it along with warm weather. I find honey that I have already extracted candies very quickly, owing, I think, to the wild mustard, of which we have had more than ever I have known about here. There appears to have been a great scarcity of swarms all round our neighbourhood, and I have not been troubled with many either, for which I am very glad, although I have taken outside full combs away, and inserted frames of foundation in centre of brood nest, so as to give the queens more room, to save them from being crowded out, and to stop swarming, as far as practical. I have got a self-hiver to test, but so far the bees have not seemed at all inclined to swarm. I had them supered with shallow frames, which they filled entirely, and which I was obliged to take away, as they were so full, and bees laying out in the porch at front. They have filled a second set of frames, and have also carried some honey into the top set of frames placed to receive the swarm if it had come off. There is no fear of losing a swarm by using this hiver, but occasionally the front entrance with the excluder zinc has to be lifted at night to remove the dead drones that cannot get out. — JOHN WALTON.

New Hedges, Tenby, July 5.—Two of my stocks of bees were frozen to death in the winter, and two have since died out from spring dwindling. I have hived two swarms, a third (which was a cast) I returned to parent hive. All are doing very well, and as honey was stored in brood chamber, I extracted (excepting the frames with brood) last month. I have a fine bell-glass full, and sealed. As I work this season chiefly for run-honey, I have but few section crates on, and not any filled. I hope the recipients of the "Giant Thistle" seed have been more successful than myself, for we scarcely had rain from about Eastertide till last Saturday, and since heavy showers. The ground was parched, grass and flowers dried up, and but little white clover. The Whitethorn failed to bloom about here. Last year's plants are not half grown.—J. QUARTERMAIN.

Bee Shows to Come.

July 17, 18, 19.—Lincolnshire Agricultural Society's show at Grantham. Thirteen classes and liberal prizes for bees, honey, hives, and appliances.

July 19 and 20.—Bristol District Bee-keepers' Association. Annual Show at Knowle. Entries close July 13. Schedules from Miss Dawe, Hon. Sec., Long Ashton, Bristol.

July 24 and 25.—Cambs. and Isle of Ely B.K.A. At Ely, in connection with the C. and I. of E. Agricultural Society.

July 25.—Glamorgan B.K.A. Show at Barry, in connection with the Glam. Agricultural Society.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries closed.

July 25, 26.—Kent B.K.A. annual show (in connection with the Tunbridge Wells and South-Eastern Counties Agricultural Society), at Tunbridge Wells. Schedules from J. Garratt, Hon. Sec., Meopham, Kent.

August 5 (Bank Holiday).—Notts B.K.A. Annual County Show on the Sconce Hills, Newark. Eighteen classes for bees, hives, and honey, with liberal prizes. Several open classes. Entries close July 27. A. G. Pugh, hon. sec., N.B.K.A., 51, Mona-street, Beeston.

August 5.—Berks B.K.A., Newbury District, in connection with the flower show in Shaw-avenue, Newbury. Liberal prizes. Entries close August 2. Schedules from W. Hawkes, Hon. Sec., Newtown-road, Newbury.

August 5 and 6.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Nine classes for honey. *Special open class* for single 1-lb. jar of extracted honey. Five prizes: 1st, silver medal and 10s.; 2nd, 15s.; 3rd, 10s.; 4th, 5s.; 5th, 2s. 6d. Entries close July 25. Robt. Hefford, Hon. Sec., Boughton, Northants.

August 6 and 7.—Staffs. B.K.A., at West Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances. Schedules, when ready, from Harold Twentyman, Wolverhampton.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries closed.

August 15.—Goole and District Agricultural Society. Annual show at Goole. Five open classes for bees and honey. Entries close August 8. J. Luddington and H. S. White, secretaries.

August 15.—Berks B.K.A. (Windsor district) Show, at Maidenhead, in connection with the Maidenhead Horticultural Society. Fourteen classes, with good prizes, for bees, hives, and honey. For schedules apply to the Hon. Sec., W. S. Darby, Consort Villas, Clewer.

August 22.—Show of bees, hives, and honey, in connection with the Horsham Horticultural Society's show at Springfield, Horsham. Entries close August 17. Lectures in Bee-tent by the Rev. C. Brereton. R. Gilburd, Sec., 39, Carfax, Horsham.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

SAM HUGHES (Dover).—We have had no experience of linseed as a honey plant. If, however, the bees work hard on it in a field several acres in extent, it may be safely inferred that they are gathering from it.

W. B. (Lowestoft).—*Queens with Second Swarms.*—Young queens which lead off second or later swarms are not fertilised at the time of swarming.

E. A. DOUGLAS.—There is certainly an admixture of lime honey in sample sent. It is of very fair quality.

J. M. BALMBRA.—The prize-list as given in our last issue is full and perfectly correct.

JAS. WILSON (Cardross).—Comb shows no sign of disease; it contains only drone brood, but is so old and black as to sadly need renewing at the earliest opportunity.

C. W. EVANS (Carshalton).—Comb contains nothing worse than pollen. The dark colour of this only indicates the source from whence it comes. Several flowers yield very dark-coloured pollen.

GEORGE EDWARDS (Henfield).—*Leaf-cutter Bees.*—The bees in question are those known by the above name; genus *Megachile*, of which there are seven British species. The mason-bee (*Osmia*) belongs to the same group, having the ventral surface of the abdomen furnished with long stiff retroverted hairs, by means of which the pollen is brushed from the anthers as the insect passes in or out of the flowers.

JNO. MILLS (Nunthorpe).—*Runaway Swarms.*—It does occasionally happen that swarms join on to full stocks as in your case, though such incidents may be set down as "unusual."

H. A. C. (Wickham Market).—*Honey Clouding.*—The fault you complain of is caused either by air bubbles—which will pass off with the application of just a little warming in water—or otherwise it is beginning to granulate, in which case it must be warmed in water till it becomes clear.

CARL NUNAN (Tunbridge Wells).—*Taking Honey.*—Super-clearers are, we suppose, now made by every manufacturer of bee-appliances in this country, as may be seen in our advertising pages.

BEE FANCIER (Kent).—*Bee Food.*—The best food for bees—apart from that gathered naturally by themselves—is syrup made from pure cane sugar and boiling water. If by "syrup" you mean the golden syrup of household use, it is not at all suitable for bees, being merely treacle in refined form. Above reply was delayed by its being addressed (contrary to rule) to our publishers.

ANNONE (Derbyshire).—*Stands for Skeps.*—We fear there is not sufficient originality in in the stand, designed for use as a covering for skeps, to warrant an appliance maker in taking up its manufacture on the terms stated. As a matter of fact, we saw a stand exhibited at a show some years ago, intended to serve precisely the same purpose as yours, but having also the additional advantage of being adaptable as a frame hive if so desired. It is also quite a common occurrence for those who adopt outer cases to their frame hives to use these cases for skeps when such are required. You might, however, obtain the opinion of some dealer on the point. If furnished with the blocks necessary to illustrate your description, we will be very pleased to print it in our columns.

GLYNN GRYLLS (Honiton).—*Time for Taking Driven Bees.*—1. Get the bees as early as their owners will allow them to be taken. The earlier the better for you. 2. Yes, the keeping of top swarms by cottagers tells against them the following year in having old queens; but all do not follow that plan.

R. G.—(Renfrewshire).—Queen sent is young, but whether fertilized or not we cannot say, the body being too hard for dissection.

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Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

LARGE CHAPMAN'S HONEY PLANTS FOR SALE, 9d. dozen. Post free. HOLDER, Wimborne. H 71

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20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

I BEG to thank my Customers who have done business with me for so many years, and to ask them to forward their orders. I have some splendid Clover Honey (fit for any table), pale colour, and good aroma, 7d. per lb. in 60 lb. tins. T. HOLLIDAY, The Apiary Astbury, Congleton. 153

FOR SALE.—Having let my house and grounds from August 1st, I must sell my Bees and Hives: four strong Stocks in large flat top straw skeps, twelve Stocks in standard bar frame hives of best makers, all headed by either 1894 or 1895 fertile queens. Must sell within the next fortnight. Particulars on application. Warranted all healthy. They can be inspected any day. £25 the lot, or would separate. W. HINSON, Westholm, Reigate. H 70

Prepaid Advertisements *(Continued)*

LACE PAPER for GLAZING SECTIONS. Three neat patterns, 100 strips, 22 inches long, 8d., post free, 500, 2s. 9d., post free. W. WOODLEY, Beedon, Newbury.

PURE BLACKS, Swarms, 5s., 10s. 6d.; Nuclei, 5s.; Queens, 3s.; free on rail; empties returned. ALSFORD, Expert, Blandford. 139

HONEY SECTIONS WANTED, for cash, new. Best pale, well filled, and sealed only received. T. SMITH & Co., 17, Cambridge-street, Hyde Park, W. H 47

PURE ITALIAN QUEENS, from LUCIA PAGLIA, Royal Bee Establishment, 7s. each; six for 39s. Cash with order. J. GREENHILL, 80, Graham-road, Wimbledon.

1895 HYBRID QUEENS.—Special Ligurian Hybrids—Queens, tested, 5s. 6d. each; Virgin Queens, 3s. each. All Queens sent in my new Introducing Cages, post free. Safe arrival guaranteed. Orders executed in rotation. H. W. BRICE, Beulah-road N., Thornton Heath, Surrey.

YE OLDE ENGLISHE BEE.

Fine selected Fertile Queens, 3s. 6d. each; finest tested English Queens, 5s. each. Sent in my Introducing Cage, guaranteeing safe arrival. Parcel Postage 3d. W. WOODLEY, Beedon, Newbury.

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(FOURTH SEASON).
Kills Bee-stings like magic.

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Prevents the horrible smarting and burning inflammation.

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Prevents getting stung, robbing, &c.

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Royal Lancashire Agricultural Society.

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PRIZES, Value £2,800.
Horses, Cattle, Sheep, Pigs, Goats, Dogs, Poultry, Pigeons, Cheese, Butter, Honey, Working Dairy, and Implements.
Entries posted to-morrow (Saturday) will be in time.
JAMES BIRCH, Secretary.
3, Brunswick-street, Liverpool.

DERBYSHIRE BEE-KEEPERS' ASSOCIATION.
THE FOURTEENTH ANNUAL
EXHIBITION
— OF —
Hives, Bees, Honey, and Appliances
Will be held in the
SHOW GROUNDS OF THE DERBYSHIRE AGRICULTURAL SOCIETY AT DERBY,
On Wednesday and Thursday, Sept. 11 & 12, 1895.

The following Classes are open to all comers—
CLASS 14.—Best Twelve 1-lb. Sections. First Prize, £1; Second, 10s.
CLASS 15.—Best Twelve 1-lb. Jars of Run Honey. First Prize, £1; Second, 10s.; Third, 7s. 6d.; Fourth, 5s.
CLASS 16.—Best Twelve 1-lb. Jars of Granulated Honey. First Prize, £1; Second, 10s.
CLASS 17 (offered by Mr. F. Walker, Hon. Sec. D.B.K.A.)—Best Two Combs of Honey in Standard Frames. First Prize, 15s.; Second, 10s.; Third, 5s.
CLASS 18.—Best Collection of Appliances. First Prize, £2; Second, £1.
For Entry Forms or other information, apply
F. WALKER, Hon. Sec., Cattle Market, Derby.

BEE-KEEPERS in LANCASHIRE and CHESHIRE, &c. THE CENTRAL SUPPLY STORES for all BEE REQUISITES is in LIVERPOOL 50, GREAT CHARLOTTE STREET. GEORGE ROSE. Why pay carriage from long distances, when you can buy as cheap and good locally, and *have your orders promptly attended to?* Catalogues gratis. Sow now CHAPMAN'S HONEY PLANT, 6d Packet. Expected shortly, big lot of HONEY JARS (screw and tie-over). Large buyers, please write at once. Very low prices per crate of 3½ gross ex dock on arrival. Best Falcon Sections very low per 1,000 or 10,000.

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GEO. J. BULLER, Triangle, Hitchin, Herts
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Is prepared to undertake the management of Bees and general expert work, by the day or season.
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For HIVES made of carefully selected and seasoned wood. For EXTRACTORS, FOUNDATION, SECTIONS, SMOKERS, &c. &c
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Illustrated Catalogue Free.

SEASONABLE GOODS.
Finest Quality Sections ... ... 18/- 1,000; 2/3 100.
Stock Foundation... ... ... per pound, 2s.
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Honey Glasses, metal top ... ...gross 21s.
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(27 Years with Neighbour & Sons.)

W. P. MEADOWS,
Syston and Leicester.
Royal Show, DARLINGTON.
I thank the friends who gave me their orders and expressed regret at my not getting first prizes. I only entered one Hive in each class, both made exactly the same as those awarded first prizes at Cambridge last year, and which have given such general satisfaction. Pressure of business prevented me staging quite so good a collection as I could have wished.

SWARMING SEASON, 1895.
NO MORE LOST SWARMS,
If my SELF-HIVER is used.
NO OBSTRUCTION TO THE BEES.
Admitted to be as near as possible to perfection.
SEND ADDRESS FOR ILLUSTRATED PAMPHLET POST FREE.
G. W. HOLE, PATCHAM, SUSSEX. 115

DON'T GET STUNG!
WHEN, BY USING **APIFUGE** YOU CAN PREVENT IT.
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Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 105, Jermyn-street, on Thursday the 11th inst., present Rev. G. W. Bancks, Major Fair, H. W. Brice, W. B. Carr, E. D. Till, C. H. Hooper, and J. M. Hooker (ex officio), John Huckle, secretary. In the absence of the Chairman and Vice-Chairman, Mr. Till was voted to the chair.

Communications were received from the Hon. and Rev. H. Bligh, Mr. Garratt, Mr. Harris, Mr. Scattergood, and the Chairman and Vice-Chairman regretting their inability to be present.

The minutes of the last meeting of the Council were read and confirmed.

The following resolutions were passed. 1. "That the best thanks of the Association be given to Mr. Jonas (for acting as steward) and to Messrs. W. B. Carr, F. J. Cribb, J. M. Hooker, for their valuable services as Judges and Examiners at the Darlington Exhibition." 2. "That the Association desires to tender its best thanks to all those who contributed plants and flowers, and in other ways gratuitously assisted the Council in making the bee department of the Darlington Exhibition successful."

The Finance Committee recommended "That the chairman of the Finance Committee be empowered to authorise the payment of the prizes and accounts relating to the Darlington Exhibition on receipt of the statement of such accounts from the secretary." Resolved that the report of the Finance Committee be approved.

The Exhibitions Committee reported that arrangements had been made with the British Dairy Farmers' Association whereby the B.B.K.A. had undertaken to contribute half the amount of the prizes awarded for honey at the forthcoming dairy show, to be held at the Agricultural Hall, London.

The Council had under consideration numerous communications in respect to the appointment of judges and examiners from the counties of Wilts, Yorkshire, Ely, Lincoln, Derbyshire, and Staffs. A letter was read from Mr. Scattergood, of Stapleford, Notts, suggesting that some arrangement should be made for endorsing the certificates of those candidates who had passed successfully in the "knowledge and treatment of foul brood." Resolved, "That the secretary do endorse all such certificates on their being returned to him."

The Special Foul Brood Committee's report of the conference held at the office of the Board of Agriculture appears later on.

The secretary reported the results of the meeting held in the Show Yard at Darlington, under the presidency of the Earl of Winchilsea, at which it was recommended that the information already published on the subject of the preparation and removal of bees for the heather harvest should be brought before the notice of the Durham and Northumberland Association. The secretary was instructed to convey this information to the association referred to, and to express the regret of the council that no member of the association attended the meeting to express their views on a subject placed on the agenda at their express wish, and intended solely for the benefit of bee-keeping in the north of England.

The following new members were elected :— Mr. J. W. Jacomb Hood, Leigh-grove, Surbiton ; Mr. J. N. Kidd, 1, Havelock-terrace, Gateshead-on-Tyne ; Mr. H. W. Morris, 15, Spring-gardens, Doncaster ; Mr. F. H. Taylor, Fallowfield, Manchester.

The council adjourned to September 12.

MEETING AT SHOW GROUND, DARLINGTON.

A meeting of the Association was held (by permission of the Council of the Royal Agricultural Society) in the Show Yard at Darlington, on June 26. The chair was taken by the Earl of Winchilsea, President of the Lincolnshire Bee-Keepers' Association. Representatives were present from Yorkshire, Hunts, Darlington and other districts. Mr. W. Broughton Carr and Mr. J. M. Hooker, members of the Council, and John Huckle, Secretary of the B.B.K.A., were also present.

On the motion of Mr. Hooker, it was resolved "That the thanks of the British Bee-Keepers' Association are due and are hereby tendered to Mr. E. Bowes and Mr. A. B. Mounsey, of Darlington, and Mr. Robinson, of Greatham, for the valuable assistance rendered by them in connection with the bee department of the Royal Agricultural Show."

At the suggestion of the Durham and Northumberland B.K. Association the subject of "The necessity or otherwise for the publication of a pamphlet on the preparation of bees for the heather harvest" was discussed. In the absence of representatives of the Durham Association, the subject was opened by Mr. R. A. Grimshaw, secretary of the Yorkshire Association, who contended that the work of preparing and taking bees to the moors had been fully written upon by various competent authorities, including the late Mr. William Raitt. The speaker concluded by referring to several articles which had already appeared in the BEE JOURNAL and RECORD by various writers who had given attention to the subject. The Chairman regretted the absence of those who appeared to be chiefly interested. He gathered from the remarks of Mr. Grimshaw that much useful information on the subject had already been published, which was calculated to be of great use to the northern bee-keepers. He would suggest that the more salient points of the several articles be brought before the notice of the Durham Association

who might then see their way to affiliate with the central society, with the view of co-operating with them in the production of such a leaflet as might tend to help the gathering of the heather harvest.

On the motion of Mr. Carr, it was resolved "That the best thanks of the Association be given to the Royal Agricultural Society for the gratuitous use of their council tent."

A hearty vote of thanks was accorded to the Earl of Winchilsea for presiding.

BRITISH BEE-KEEPERS' ASSOCIATION

AND COMPULSORY POWERS FOR DEALING WITH FOUL BROOD.

CONFERENCE AT THE BOARD OF AGRICULTURE.

On Wednesday, July 10, the Special Committee of the B.B.K.A. (Messrs. H. Jonas, vice-chairman, W. H. Harris, E. D. Till, and W. Broughton Carr) attended by appointment at the offices of the Board of Agriculture, Whitehall, to confer with Mr. T. H. Elliott (permanent secretary) and other officials of the Department, with a view to fully discuss the question of compulsory powers for dealing with foul brood among bees. The conference occupied a considerable time. All the points raised by Mr. Herbert Gardner on the occasion of the recent deputation of the B.B.K.A. were dealt with, and answered—it is confidently believed—to the satisfaction of the Department.

As a result of the circular sent by the B.B.K.A. to various County Councils throughout the kingdom, appealing to them to aid in the work by nominating a representative to confer with the B.B.K.A. Council on the whole question, replies—in the main, very favourable—have already been received from twenty-five Councils, and there was every prospect that the funds of County Councils would be available for the purposes of Finance. It was shown that competent and duly-qualified experts would be forthcoming to act as inspectors, while to administer the Act in such a county as Kent only a very moderate annual expenditure would be necessary; not at all out of proportion to the capital involved, or the value of the honey harvest. Then, as the area of the disease diminished, so the annual expenditure would grow less; and it must not be forgotten that the visits of skilled experts to numerous apiaries will be the means of conveying valuable instruction, thus advancing Technical Education in bee-keeping.

On the main points raised there were practically no difficulties to prevent the introduction of an "Adoptive" Act, *i.e.*, an Act which would only come into force at the option of County Councils. Thus the successful working of the measure—in such counties as chose to adopt it—would gradually encourage its extension over the whole area of the kingdom, and, by not forcing the Act on any county, even the anticipatory opposition—usually expected where compulsory powers are sought—would be removed, and anything like hostility disarmed.

The Department is also favourable to the issue of an official leaflet on the subject of foul brood, its detection and treatment. The dissemination of this instruction all over the kingdom will, it is felt, be exceedingly helpful to British bee-keeping, and the Council of the B.B.K.A. have reason to be fully content with the result of their labours on the important question dealt with, so far as they have gone.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The Editors of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "The Manager, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

"*.** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2118.] The rain, which as I said in my last budget of Notes, "delayeth its coming," has still to come. The dry weather has extended till the middle of July, and the burnt-up condition of the grass leys tells a sorry tale for the farmer and bee-keeper. The honey season, which opened with so much promise for an exceptionally good one, has again deluded us with false hopes, and we find that the result is rather below a good average crop of honey. Our harvest generally extends till the middle of July or St. Swithin's, but this year bees have done practically nothing since July came in, so that we shall have a full third less crop of honey than if we had had a good rain a fortnight or three weeks ago. The thirty acres of white clover at the side of my home apiary, on which I had set my hopes, does not contain a single flower to the acre; the sanfoin fields are in the same condition as when cut a month ago, the vetches are all seeded, the wild mustard (charlock) is dried up, and even the roadside wastes are bare of flowers. In fact, there is nothing for the bees to gather honey from except the trees in the woods, and in a few days the last blossoms on the limes will be over.

In adverse circumstances there is often something to be thankful for, our bees owing to continued drought and absence of heavy dews,

have not stored any appreciable quantity of "honey-dew," therefore the quality of honey in this immediate neighbourhood is good, in fact lighter in colour than we have had it for many years. I know how vexed I was one morning late in June to find such a hum with the bees at work on the fruit-tree leaves, *i.e.*, the plum, red and black currant, &c.—and on examining the underside of the leaves I found them infested with *aphides*, but this lasted only a few hours, until the "dew," which on that particular morning was very heavy, was dried up, and I have not seen the bees working on the same trees since, through the stickiness on the leaves being of too resinous a nature for the bees to collect. The offer I made to send sample glazed sections to show bee-keepers how we do our glazing (and which I beg to say are still on offer) has been embraced by a large number. It was amusing to see the bulky condition of the mail bags at our local sub-office for a few days.

I would again impress on bee-keepers perfect cleanliness when handling honey, especially honey in sections. When these are removed from the racks, scrape off carefully and thoroughly every particle of wax and propolis; store them in the same position as when on the hive, in a dry room or cupboard, and protect from dust and light. If you have no convenience, after you have taken them out of the racks and carefully scraped off all propolis and brace-combs from the racks, lay a piece of newspaper at the bottom of your empty racks and replace the full sections after scraping in these latter. When wedged up tight they make a capital store place for the honey till wanted for market. The section-racks can be stored one on the other without damage to the honey if the sides of racks are as high as your sections, so that the crate sides form the bearing; if they are not high enough to take the pressure off the sections, you can easily make them so with strips of thin board either tacked on or simply laid on.

"Will the change in our Government interfere with the prospects of our much hoped for powers of dealing with the pest of bee-keeping?" was a question asked me last week by more than one correspondent. If our editors can answer the question in a "footnote," no doubt the bee-keepers referred to, as well as many others, will be glad to know that the Permanent Secretaries of the Department have power to continue the negotiations with the B.B.K.A. [See report on p. 282.—EDS.]

The past bee season has not been a swarming season in the old swarming style of swarms, smarts, casts, chits, and maiden swarms, and even maiden casts, as of yore—in fact, we have not had large increase from excessive swarming for several years. Is it that the seasons are different, or are our bees less inclined to swarm than formerly? If the latter proposition holds good, the question resolves itself into "heredity," and we shall be inclined to think—if even we go no further—that by breeding from stocks that were noted for quantity of honey stored, rather than extra prolificness—*i.e.*, abnormal swarming—there is a certain tendency in such stock to reproduce the same characteristics as in the present stock.

The number of frames in a hive has had a full discussion on the American continent during the past year or two, and I think I shall sum up the matter in a short note if I say that the concensus of opinion amongst the honey-producers is that a medium size brood nest is the best for all practical purposes. The many articles and answers to pointed questions on the subject all trend in that direction. I have said all, perhaps I ought to have said nearly all. There are a few who advocate ten-frame hives, but generally these live in a good honey-producing district, and as I said above the majority use only eight or at most nine frames in the hive.

The reversible brood-nest seems to have died out, very little is now said in its favour. One writer advocates the reversible shallow-bodied hive, *i.e.*, the brood nest being in two shallow compartments instead of one deep one, as with us. Now this style of hive, if the two bodies containing the brood nest are inverted every nine days, entirely prevents swarming, as queen cells when turned up the wrong way fail to hatch out. The writer uses this style (the Heddon hive) in his out apiaries, and by following this practice saves the expense of a watcher during the swarming season.

A parting "note" to those who are intending to re-queen by purchasing queens from a distance, *don't* de-queen *your* stock until you receive your new queen to replace her, many things may happen to cause delay, and hives that have been long queenless are oft-times a trouble in accepting a queen. The novice, by a little delay or a little bungling, may lose a valuable queen by a slight mistake or an oversight of even a simple matter.—W. WOODLEY, *Beedon, Newbury.*

HEREDITY IN BEES.

[2119.] For the subject on which I now propose to trouble your readers, I beg to refer them to

"Bees and their Temper," B.B.J., March 28.
" " April 11.
"Bee Jottings" ... ... " July 11.

from which I will take the liberty of quoting. Mr. Clutterbuck (p. 143) thinks my views "go further than the facts of the case warrant." Perhaps I have not made myself clear when I said (p. 122), "excessive manipulation may perhaps cause bad temper in some particular hive; so may peculiar electrical conditions of the atmosphere, but these are only *symptoms of constitutional peculiarity*, the causes of which lie deep in the nervous system of the bee, and this extreme susceptibility to irritation must be handed down also to those who follow on and carry on the race." Again, I

say (p. 123), "Looking forward then to the *development* (italics are mine) of a strain of bees with even tempers we should, when we have accidentally (by excessive or faulty manipulation) roused or caused a really vicious disposition, which up to that time *had been latent*, take vigorous effective measures to prevent such vice being handed on to the young brood, the future tenants of the hive." I hold Mr. C. has not grasped my meaning when he remarks (p. 143), "it by no means follows that bad tempered nurses will necessarily produce bad-tempered bees." Bad temper is latent defensive instinct, called into excessive play by varying causes; furious rage is only extreme bad temper finding an outlet in violence, but the whole is only, as I say above, "a symptom of constitutional peculiarity, the causes of which lie deep in the nervous system of the bees," and has evidently had centuries upon centuries of ancestry for its evolution or devolution before being "screwed up to the sticking point."

Your correspondent, when speaking of foster parents, says, "to take an analogous case in mammals, there is no evidence that a baby fed upon the milk of a cow or the goat thereby acquires the characteristics of these animals." This is not analogy, my friend, when one goes to the most opposite natural orders for its nurse-mothers! The nurse-mothers of honey bees are at least honey bees! If Mr. Clutterbuck will do me the honour of reading my paper on "Heredity in Bees," read before the Linnæan Society, and also before our association (B.B.J., October 31, 1889), he will find that I do not claim that the Great Worker suddenly works wonders in *one generation*, but that "I hope I have given you sufficient reason for coming to the conclusion that countless generations of foster-mothers have been the real highways of heredity in our bees, that as the milk-like secretions of the nurse bee are fed alike to drone, queen, and worker brood, it is by this means her wonderful adaptations in structure, &c., are perpetuated."

One glaring want of analogy is exhibited by your correspondent:—"But in the case of foster-mothers there is not the same continuity of cell-life, since the food has to be digested, and its cell-life destroyed before it is assimilated by the individual." He evidently is not aware of, or has momentarily forgotten the fact, that the brood does not take its baby food as he infers, but, on the contrary, absorbs it, as the polyglot schoolboy would say, "*per bocca, per anum, et partout.*"

I could quote many opinions of the greatest weight on the effects of foster-motherhood on animals so reared, but the opinions expressed by Mr. Cowan (than whom there is no *higher* authority) in the discussion (B.B.J., October 31, 1889) on my paper should suffice.

It is as I have said elsewhere, we are so very, very practical in this good old land of ours, that with the majority anything having even (to use Mr. McClure's significant word) a "tack" of science or theory about it, is received with an incredulous shrug of the shoulders. My theory of heredity has been discussed, admitted, translated into the Swiss, French, German, and Russian journals; shelved, secretly experimented upon, and *rediscovered* by an eminent German scientist; discussed, and finally adopted as correct. Lastly, after being pigeon-holed half a dozen years, its accuracy is questioned at home, and I am not now disposed to take up arms whilst fondly taking rest of a sort, hence my silence on the subject since April 11. I thought it best to let newer blood have a turn. But noticing such gentle, courteous urgings as have sprung up in the "Bee Jottings" of Mr. H. W. Brice (who, by the way, reminds me of the "one down, another come on" principle amongst your most interesting contributors, or rather shouldn't I say "there's as good fish in the sea," &c.?), I am constrained to bring my personality once more into your columns, but Mr. Brice, most kindly disposed to him as I am, must excuse me if I do not take up a refutation of his statement (p. 272) that "the whole question of heredity is theory and theory only." I am sure it is a slip of the pen. (Ribot on "Heredity" should dispose of it if not so), for Mr. B. goes on to say, on queen-rearing: "Certain strains of bees possess certain characteristics of their own which, according to Darwin and others, are evolved and strengthened from generation to generation until they become fixed traits or prominent peculiarities of the species" Such is heredity. Yes, but how is it carried on, I ask your readers, by drone and queen who have *not* certain characteristics of the honey bee to hand down to posterity and by the worker who has such characteristics but is generally unfertile? If not by the theory of brood-food, which holds the field, substitute a better theory with more reason behind it, if one can be found; then mine will obey the law of nature and "climb down," as the coon did to save the dead shot Major Jackson the trouble of shooting.—R. A. H. GRIMSHAW, *Woodlands View, Horsforth, near Leeds.*

THE HONEY SEASON IN KENT.

[2120.] A correspondent writes in B.B.J. of July 11, page 275, "Kent bee-keepers have had a good season, and hopes they will send liberal entries for the K.B.R.A. annual show at Tunbridge Wells, and make a really good show.

If the said show is to depend upon the honey gathered in the immediate neighbourhood, I am afraid it will be a very poor display. Taking my own bees as a starting-point, I have at present fifteen stocks in frame hives, and at the present time I have not taken a single section of this year, and, with about three exceptions, I don't know of any one else that has. If other people's bees were

gathering honey and mine were not, I should say it was my bad management; but when you find the bees of a brother bee-keeper, holding a first-class experts' certificate, are not doing any better than your own, I cannot lay it off to that. I have queens from a month old up to five years, and it don't seem to make much difference. They work like niggers for a day or two, and then the wind goes round north, and they stop indoors and consume what they have collected previously.

I had intended showing, but cannot see where I am to get the honey from.—MAN OF KENT, *Hildenborough, Kent, July* 12, 1895.

[We rather fear that our correspondent is located in a poor part of Kent for honey, because, notwithstanding his failure, not only has remarkably fine honey been gathered in the county, but plenty of it. This is a fact which cannot be gainsayed concerning several districts which we know of. We are hoping that this will be fully verified at the show to which reference has been made.—EDS]

ITALIANISING STOCKS.

[2121.] On the 17th June—five weeks and three days ago—I began preliminary operations for the Italianising of one of my strongest stocks of black bees on ten frames by the removal of the old queen. On the 8th I was proceeding to introduce the queen, and had the hive opened for the purpose, when I carelessly dropped a frame of bees, and upset the box in which was the Italian queen, whose lid was loose. When I and the bees recovered our equanimity there was no trace of the queen so far as I could discover, after diligent search, either inside or outside of the hive; but the blacks were hard at work despatching the few Italian attendants that had been with the queen.

I quickly closed the hive, and spread a cloth under the alighting board, supposing that the queen and her attendants, if destroyed and in the hive, would be brought out. Next morning I collected a full tally of dead Italians, sufficient to account for all that had been with the queen—but not the queen herself.

On the 23rd, or fifteen clear days after, I again opened the hive to note developments. This was sixteen days after the black queen's removal. On six of the frames I found one or more queen cells (three on one frame), but all but two uncapped. The two that were uncapped were torn open with a vertical incision, and the contents destroyed. One other queen cell had the appearance, from its pendulous cap, of having lately housed a queen nymph. There was no single egg or larva throughout the hive to indicate the presence of a fertile queen, and no sign of a queen, fertile or the reverse, so far as I could discover, after a weary search through and through the hive. A small quantity of capped brood, the last of the black queen's family, of course there was.

I closed the hive, hoping that there was an unfertile queen present that I had overlooked, but if this was the case, then my stock must have been raising queens preparatory to swarming, which fact I had overlooked when I removed the original queen. To-day, or twenty-one days since the last examination, I have again opened the hive, and I find, to my great surprise, five frames fully covered, and two more frames well supplied with brood in all stages of development. I find also an active and evidently prolific queen, but my previous experience of the race does not qualify me to say whether or not she is the Italian that I lost. She strikes me as being a big queen, and she has three narrow bands of yellow, but not such distinct bands as mark the worker of the Ligurian race.

The question in my mind is whether, if she is not the Italian queen, she could have been fertilised (as she must have been) within the last twenty-five days, and have left her mark in the hive, in the shape of brood, to the extent that the queen that is present has done?

Will you kindly give me the benefit of your experience on this point, to settle the question in my mind as to whether I have an Italian or young English mother at the head of this stock?

With apologies for so lengthy an explanation, I am, sir—J. W. JACOMB HOOD.

[There can be little doubt that the queen now heading the stock is the supposed lost Italian one. A day or two, however, will set the matter at rest, when the progeny of the reigning queen begin to show themselves on the wing.—EDS.]

BEE-KEEPING IN THE TRANSVAAL.

[2122.] In conforming to my promise I send you a short paragraph on "Bee-keeping in the Transvaal," together with my experience during the last two years, and hope the same may be of some interest to the readers of your valuable journal.

The first bees I got acquainted with were a stock of my fathers in the Cape Colony, kept in a barrel, which was stuck in the notch of an old plum tree. It was there where I tried my hand for the first and last time at teasing bees. The manner of my reception was as follows:—I forced a long reed into the entrance—need I intimate what happened, or how I felt about the eyes, nose, ears, &c., or what the difference was between the keynote of the pursuing bees and that of the cane following soon after? Suffice it to say the youth learned the lesson soon enough, never to tease the little animals again.

When I tried my hand the next time with them it was to work for profit and pleasure combined.

On coming to the Transvaal I found a new

mode practised in obtaining the nectarine product manufactured by the smallest servant of man. Some parts of the country teem with bees, and a farmer, if in want of honey, orders two or three Kaffirs to inspan eight or ten oxen, placing two barrels to hold sixteen gallons each on the waggon, and then sends them off to go and rob "bees'-nests," as they style them. These "nests" are found in burrows made by porcupines, in ant-heaps, and in hilly parts under and between rocks. I know of one district where the natives, when tilling the ground for mealie-planting, have the habit of placing three or four flat stones together—pyramid-like—and covering over with loose soil, so as to produce a sort of cavity. Generally these are taken up by swarms, and in the fall the natives break up and rob, destroying their habitat.

Well, after several days the farmers' Kaffirs return with waggon and oxen, bringing one or one and a half barrel of run honey. The same is generally obtained at the cost of the bees' lives, as, all combs being cut out, the bees are obliged to find a new home.

Often, too, a large fire is kindled at the entrance, and the bees thus burned to death. Sometimes the honey is so dirty that no one will buy same.

About three years ago, seeing and hearing so much about bees, and honey obtained from them in this rough and brutal way, I resolved to acquire some knowledge of bee-keeping, and wrote at once for books on the subject. I might here state that your valuable journal, Mr. Cowan's "Guide Book," A. I. Root's "A. B. C. and Modern Bee-keeping," soon gave me 110 deg. of bee-fever, and the next order was two hives (standard size), and other accessories. When I had bought two swarms, caught one myself, and fairly set them at work, winter was upon me, and the only thing I could do was to prepare for next spring, by getting ready some more hives. When spring came the still high fever again rose higher, and my main object then was increase of swarms; so, with guide-book in pocket, I soon set out dividing and rearing queens. I succeeded well, and when winter came I had fed up six pretty populous colonies. During winter, however, I lost one of these again, and uniting the two weakest gave me four strong stocks to super last season. This I did as soon as peach and pear blossomed. Judge my joyful surprise when I was able to carry home my first rack filled with 1-lb. sections.

And now at the end of my first honey harvest, after deducting all expenses, my net profits amount to £27 4s. 6d., leaving the complete stock on hand fully paid off. Of course my time and labour I reckon as most pleasantly spent with the beekeeper's little friends.

Now I will conclude with one remark. At the time when your bees were suffering so severely from last winter's cold, ours were dancing among the flowers in the height of the African honey flow. Now again, ours are sitting benumbed while I read in your JOURNAL of the fields being covered with all the radiant flowers; and musing thus I am cheered, knowing that although old Sol now and then hides his face from us he is always at his meridian to, at least, some of our dear little pets, the bees. With apologies for encroachment on your valuable space.—P. J. VAN DER MERWE, *Pretoria, Transvaal, June* 22, 1895.

METEOROLOGICAL SUMMARY.

JUNE, 1895.

Locality, Stoke Prior, Worcestershire.

Height above sea-level, 225 ft.

Rainfall, 1·86 in. In June, 1894, 1·60 in. rain fell.

Greatest fall in 24 hours, 1·33 in. on the 27th.

Rain fell on 5 days. In June, 1894, 11 days.

Max. shade temp., 80° on 25th and 26th; max. for June 1894, 75°.

Min. temp., 30° on the 14th; min. temp. for June, 1894, 35°.

Max. shade temp. at 9 a.m., 71° on 22nd.

Min. temp. at 9 a.m., 53° on 6th.

Frosty nights, 2. During June, 1894, nil.

Max. barometer, 30·25 on 24th and 25th.

Min. barometer, 29·525 on 29th and 30th.

An exceedingly hot and dry month. Early in the month the nectar was secreted very freely, but later, owing to the parched condition of the soil, the flow was much less. The wished-for rain made its appearance on the 26th, accompanied with very vivid lightning and heavy thunder. No less than 1·33 in. rain fell within seventy minutes. Few swarms reported. Clover all cut, poor aftermath owing to the drought. A falling barometer at close of month.—PERCY LEIGH, *Beemount.*

Echoes from the Hives.

Flora Apiary, Somersham, Hunts.—Glorious weather, bees still at work on mustard. Buckwheat will soon be coming in. I allow them this to fill up for the winter. Never had such a honey season before; filled up everything that was put on. Taking off all surplus-chambers now.—R. BROWN.

Queries and Replies.

[1318.] *Size of Bee's Egg. Ripening Honey.*—I would be glad to have the following questions answered:—1. While honey is ripening, should it be covered over lightly, or tightly? 2. If stood in too warm a place, will it ferment? 3. What is the size and appearance of a bee's

egg? In a comb I took from a hive the other day I found no brood, but in a few cells clusters of tiny green eggs, and, in some others, white eggs, about the size of a grain of hemp-seed. The latter were mostly two or three in a cell. The hive swarmed three weeks ago, and there was no brood at all in it, and I could not find the queen. 4. There were two large empty queen-cells, with *rough* edges, where apparently they had been torn open. Does that mean two queens have hatched lately? Is the hive probably queenless?—"NOVICE," *Gosport.*

REPLY.—1. Honey must be only lightly covered to allow for free evaporation of superfluous moisture. 2. Warmth will not cause ripe honey to ferment. It should be kept at a temperature of 80 deg. Fahr., or over, till jarred off. 3. The egg is a tiny oval body, with rounded ends, pearly white in colour, and, to be fairly exact, in size about $\frac{1}{11}$ in. long, and $\frac{1}{70}$ in. diameter. These measurements will not assist much in gauging the size by the eye, judged by which the egg may be compared in size to a full $\frac{1}{16}$ in. cut from the point of a pin. You are, therefore, altogether mistaken in what you suppose to be eggs, some green and some white in colour, "about size of a grain of hemp-seed." 4. The signs noted simply indicate that the young queens in cells torn down have been destroyed. The probability is that the young queen left in the hive has not yet began laying.

[1319.] *Vicious Bees.*—Will the Editor kindly assist a constant reader, and one perplexed, with the manipulation of vicious bees? The other day I opened a full hive of black bees (with three racks of sections on), being desirous to examine brood-chamber, but I had scarcely removed one super when the bees attacked me by scores. This is very discouraging to a novice, and beginner. I will, therefore, be very thankful, and appreciate your advice, and do my best to succeed with these "vicious, but good, little workers." I am thinking the fault lies at my door, which makes me very anxious how to succeed in removing three or four crates, examine brood-chamber, extract from frames if required, and replace all without a sting.—"PERPLEXED," *Tulgarth, Brecon, July* 15.

REPLY.—Our correspondent will best show his appreciation of our advice by giving up all anxiety in the future to extract from brood-chambers of hives having "three racks of sections" above; and he will pardon us for saying that we think all the more highly of his "good little workers" for resenting such a proceeding. Moreover, we hope he will, in the future, set his face against extracting from brood-combs, for we consider it bad bee-management to do so, unless under very special conditions. The best course "Perplexed" can adopt is to avoid disturbing the brood-nest at all—so far as robbing it of stores—when surplus chambers are on.

[1320.] *Do Bees Carry Stored Food into Supers?*—A talk I had with an old skeppist lately raised in my mind some doubts which I should like set at rest. I therefore ask: 1. Is there a possibility (and if so, under what circumstances) of the syrup which has been fed in autumn and spring being carried up into the supers, provided, of course, the latter are not on while feeding? 2. I turned out some bottles of '93 honey to-day, and found the top layer of thin stuff unusually deep, while the candied portion was softer than I'm accustomed to find it, as if the thin portion had soaked into it. Do you think this is owing to the unripeness of the honey when bottled, or to the fact that it has been in a decidedly damp room since it was stored nearly two years ago? The remainder of my honey is in the driest room in the house.—J. P. S., *Penrhyn, July* 12*th.*

REPLY.—1. Leaving out the "possibility," we may say there is not the remotest probability of bees carrying syrup stored away several months ago into surplus chambers. 2. It is not unusual for crystallised honey a couple of years old to become liquid on the top while the lower portion remains granulated. This is caused by the subsequent varying temperature, the change taking place, of course, while the temperature is much higher than that at which the honey originally became solid.

[1321.] *Driving and Uniting Bees.*—I should be much obliged if you would answer the following:—1. I have four frame hives and three straw skeps. I wish to take the honey at the end of September from one of the skeps, but wish to save the bees. Can I unite them with one of the other skeps, and if so, how should it be done? Should I take away one of the queens, and would it be necessary to drive both skeps, or will it be sufficient to drive the one I take the honey from? 2. Is it necessary to wire foundation in frames intended for extraction? 3. What is the best form to place honey from skeps on the market, strained or comb, and how put in the bottles? 4. Is there any advantage to be gained by joining the Irish Bee-Keepers' Association? Do they help you in any way to dispose of your honey?—CORMORANT, *Bantry, July* 13.

REPLY.—1. When uniting bees as proposed, it is best to drive both lots, selecting beforehand the queen which is to be preserved. Capture and cage the other when driving, and keep her till the bees have been united, in case of mishap with the other queen. Both lots of bees should be driven into one skep, the whole being well shaken up together—just as you would mix peas, then throw the bees out in front of the skep to be retained, and let them run in. 2. Standard-size frames are far safer for extracting, if the foundation is wired in. Shallow frames of comb, on the contrary, if built on ordinary brood-foundation, need no wiring. 3. Honey from skeps is more suitable

for market, if nicely extracted, and put up in neat glass jars, after straining through slightly-damped muslin. 4. We have no doubt that full information on these points will be supplied on application to the Hon. Sec., Mr. H. Chenevix, 15, Morehampton-road, Dublin.

[1322.] *Ripening Honey.* — The "Guide Book" appears to be in favour of reasonably frequent extracting; nor do I see a single passage to indicate or infer that the honey so taken is in any way inferior. But in the June number of the *Record* the following sentence appeared:—"More honey will undoubtedly be secured by extracting once a week during the height of the season, but that which is left on the hives to ripen will be much superior in quality." Is there really much difference between honey extracted soon after being sealed and that left on hive for a month or six weeks after? 2. Where can the novices' metal corners mentioned in "Guide Book" be obtained? 3. What are Messrs. Dixon, Green, and Overton's addresses, please?—IGNO, *Lydbrook, July* 11.

REPLY.—1. With the ordinary bee-keeper of to-day the tendency is to extract honey not fully ripened, a large portion of which eventually ferments and spoils in consequence. This is one reason why frequent extracting is now deprecated. Besides, it is found in practice that honey ripens nowhere so well as on the hive, and that left with the bees for two or three weeks after being sealed over is always in the finest possible condition for keeping, and certainly much superior to that extracted as first mentioned. 2. The "corners" referred to have of late years been so largely superseded by metal ends of later make that we do not know of any dealer in this country who now supplies them. 3. 5, Beckett-street, Leeds; Rainham, Kent; and Crawley, Sussex, respectively.

[1323.] *Cultivation of Chapman Honey Plant.* — I received the Chapman Honey Plant seed, for which I thank you very much, and have now a nice lot of plants, each about 2 ft. high. Will you please reply to the following:—1. How shall I bed the plants out, and will they flower this year? 2. If a bee-keeper had three stocks of bees, with queens heading them each three years old, but the bees doing fairly well now, would you advise him to requeen the stocks, or let them take the chances of requeening themselves? 3. Is requeening necessary in a small apiary if swarming is prevented? — NEMO, *Staffs, July* 12.

REPLY.—1. Full cultural directions will be found in B.J. for April 11 last. 2. If there are fairly good grounds for supposing that the queens are so old as stated, the stocks should be requeened this year. 3. Yes. In all cases it is advantageous to have all stocks headed by young and prolific queens.

Bee Shows to Come.

July 19 and 20.—Bristol District Bee-keepers' Association. Annual Show at Knowle. Entries closed.

July 24 and 25.—Cambs. and Isle of Ely B.K.A. At Ely, in connection with the C. and I. of E. Agricultural Society.

July 25.—Glamorgan B.K.A. Show at Barry, in connection with the Glam. Agricultural Society. Annual meeting of the Glam. B.K,A. will be held on Show Ground. E. Thornton, Hon. Sec.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries closed.

July 25, 26.—Kent B.K.A. annual show (in connection with the Tunbridge Wells and South-Eastern Counties Agricultural Society), at Tunbridge Wells. Schedules from J. Garratt, Hon. Sec., Meopham, Kent.

August 5 (Bank Holiday).—Notts B.K.A. Annual County Show on the Sconce Hills, Newark. Eighteen classes for bees, hives, and honey, with liberal prizes. Several open classes. Entries close July 27. A. G. Pugh, hon. sec., N.B.K.A., 51, Mona-street, Beeston.

August 5.—Berks B.K.A., Newbury District, in connection with the flower show in Shaw-avenue, Newbury. Liberal prizes. Entries close August 2. Schedules from W. Hawkes, Hon. Sec., Newtown-road, Newbury.

August 5 and 6.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Nine classes for honey. *Special open class* for single 1-lb. jar of extracted honey. Five prizes: 1st, silver medal and 10s.; 2nd, 15s.; 3rd, 10s.; 4th, 5s.; 5th, 2s. 6d. Entries close July 25. Robt. Hefford, Hon. Sec., Boughton, Northants.

August 6 and 7.—Staffs. B.K.A., at West Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances. Schedules, from Harold Twentyman, Wolverhampton. Entries received until July 22.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries closed.

August 14 and 15.—Kent B.K.A., in connection with the Shepherdswell Horticultural Show. Entries close August 8. J. Garratt, hon. sec., Meopham, Kent.

August 15.—Goole and District Agricultural Society. Annual show at Goole. Five open classes for bees and honey. Entries close August 8. J. Luddington and H. S. White, secretaries.

August 15.—Berks B.K.A. (Windsor district) Show, at Maidenhead, in connection with the Maidenhead Horticultural Society. Fourteen classes, with good prizes, for bees, hives, and honey. For schedules apply to the Hon. Sec., W. S. Darby, Consort Villas, Clewer.

August 21. — Wotton-under-Edge and District Bee-Keepers' Association. In the Town Hall, Wotton-under-Edge. Eight classes for honey. Entries close August 14. Schedules from the hon. sec., E. W. Read, Wotton-under-Edge.

August 22.—Show of bees, hives, and honey, in connection with the Horsham Horticultural Society's show at Springfield, Horsham. Entries close August 17. Lectures in Bee-tent by the Rev. C. Brereton. R. Gilburd, Sec., 39, Carfax, Horsham.

September 5th.—North Norfolk B.K.A. annual show in connection with the Holt Flower Show, to be held in the grounds of Brinton Hall. Two special open classes for single 1 lb. sections and 1 lb. jars of extracted honey. Entries close August 24. Schedules from the Hon. Sec., C. J. Cooke, Edgefield, Melton Constable, Norfolk.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

BEE-MAN (Egham).—1. Bee sent is a young queen not long hatched out. 2. You will not succeed in getting the flying bees of No. 2 stock to remain in No. 1 if placed there; they will return to their old home.

W. T. LANE (South Devon).—We must leave it to readers of the work mentioned to form their own opinion as to its merits. For ourselves, we are personally so strongly opposed to any departure from the "Standard" frame for use in brood-chambers that we shall advocate no other, and we can safely say that the bee-keepers you name use none but "Standard" frames for breeding purposes.

Mr. HURNARD (Hingham).—We are not dealers in honey-tins, or in appliances of any case. Any of our advertisers will supply prices, if written to.

A. F. (Duns).—Queen received is a hybrid (but not a first cross) ligurian-black.

FELIX BRIDGETT (Stoke-on-Trent).—The bees sent are very fine ones, but of course afford no indication of the age of their maternal parent.

PERDIX (Barnstaple).—Comb sent is affected with foul brood.

S. R. (Bromsgrove).—*Keeping honey liquid.* 1. Beyond keeping extracted honey in a dry, warm place during the winter season, nothing can be done to prevent its granulation. 2. Ripe honey will not "go sour," as our correspondent states, "when kept in a warm place." 3. Early or late granulation depends largely upon the season and the source from whence the honey is gathered. 4. A strong stock should have 20 to 25 lb. of stores to make it safe for winter.

J. A. AIKEN.—Surely our correspondent cannot be serious in his query! Anyway, the insect sent is a moth, bearing no resemblance to a bee—queen, or worker.

A. HAMER (Llanrthney).—Sample of honey received is of good quality. There is less of the clover product in it than usual according to our previous experience of the honey in your district, which accounts for its deeper golden colour; the consistency is also rather less dense, but these two points are no doubt attributable to the admixture of lime honey, which some may call an improvement. It is, however, a good sample.

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Royal Show, DARLINGTON.

I thank the friends who gave me their orders and expressed regret at my not getting first prizes. I only entered one Hive in each class, both made exactly the same as those awarded first prizes at Cambridge last year, and which have given such general satisfaction. Pressure of business prevented me staging quite so good a collection as I could have wished.

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Editorial, Notices, &c.

USEFUL HINTS.

Weather.—After a long spell of hot weather—dry enough to class 1895 as a year of summer drought—the change has come, and we have had rain enough and to spare. Though very welcome to farmers—whose root-crops threatened failure—the welcome showers have come too late, we fear, to benefit bee-forage to any great extent, so far as southern pastures. It may start second-crop clover into yielding a week or two's ingathering in the more northern districts, but, in the main, the honey season is rapidly coming to an end for '95.

The Season's Results. — Regarding the results, we know it has been a good year in many parts of the south—extra good in both quantity and quality in some districts. The Midlands have also done well according to our advices, but for the north there is reason to think it will fall below the average. From Scotland reports are even less favourable than the North of England, the weather there having been cold and against nectar secretion for many weeks past. We trust the coming heather-season will make amends for the short crop of flower-honey beyond the Tweed.

Late Swarms.—Reports show, too, that 1895 has not been at all prolific in swarms. A few issued very early, and then came a long stoppage of swarming weather, putting an end to bee-emigration altogether in many cases. Late swarms, second swarms, and swarmed stocks will have fared but badly unless fed, and will require seeing to in the early autumn. Breeding is still general, and a little food will keep up the continuance of increase for several weeks later than it would be otherwise, to the manifest advantage of stocks attended to in this respect. The season has, however, been very favourable for queen-rearing and mating. This is important at a time when young, fertile queens will be in demand for replacing old, worn-out ones in stocks which have failed to swarm; and as very many colonies are now immensely strong in bees, they may be divided for increase and queened without any stoppage of brood-rearing.

Removing Surplus.—This operation is, we hope, losing its terrors for the nervous bee-keeper of to-day, and, as the season draws to an end and the usual autumn predatory habits of bees begin to develop, the value of the super-clearer becomes every year more apparent. In fact, where bees are kept in close proximity to the dwellings of neighbours who are not bee-keepers, the possession of a good "clearer"—on the principle of the "Porter Bee-escape"—becomes an absolute necessity. No amount of "free advertising" must prevent us making this fact known to all who experience trouble in removing their surplus honey. We thought the method of using the "clearer" was now well enough known to render a repetition of the *modus* unnecessary, but we are reminded that some timid bee-keepers still go a bit wrong in using it, and for these we say, first get an assistant to "stand by," clearer in hand; then quietly remove roof, "lifts," and all other coverings, so as to leave the junction of hive and super free. Next, with the point of a screw-driver gently raise the super at each corner about an eighth of an inch and slip in a little wooden wedge; do this at each corner, and then blow just one puff of smoke at the opening on each of the four sides and with a *screwing movement* lift up the super for a moment while your assistant slips on the clearer; before the bees have time to think, or recover from the smoke, set the super above the "clearer," and the job is done in less time than it takes to write it. If this is done in the evening, the rack of sections—or box of frames for extracting as the case may be—is free from bees and ready for removal next morning. Or if it be done in the early morning it can be removed at night.

Finding Queens.—A brief "hint" may be given to correspondents who write complaining of being unable to pick out queens when examining frame-hives. We cannot tell anyone how to "spot" queens quickly—only practice will do that—but where the trouble is great, the difficulty may be lessened considerably by lifting out bodily the outer comb (if broodless) on one side, shaking the bees off, and setting it aside in a safe place till wanted. The combs may then be placed out of "touching" distance, as they can in a combination hive, and this

tends to keep the queen to the comb she is "on," instead of passing from comb to comb in her alarm. Another point to remember when searching for queens is that the bees don't "run" much on the comb whereon she is, but generally have a contented appearance, not otherwise present.

BEE-KEEPERS AND THE BOARD OF AGRICULTURE.—Very encouraging indeed is it to read the report of what took place at the Board of Agriculture on the 10th inst., and very refreshing were the proceedings to the energies of those who are labouring to bring about some good to the craft. The idea of making the Act an "adoptive" one is most valuable, clearing the ground of a lot of possible hindrance and trouble. Coming, too, as it did from the far-seeing presiding permanent Secretary to the Board, it warrants us in believing that Mr. Elliott is in warm sympathy with our movement, and desires its success. Equally satisfactory was the suggestion of our Committee with regard to a leaflet on foul brood to be prepared by the B.B.K.A. Council and issued by the Board of Agriculture. The suggestion was at once accepted. Referring to the feeling in Scotland on the subject, a well-informed correspondent writes from Edinburgh under date July 16:—

"I was wondering what became of your bill at the general 'smash,' especially as in the great bee-keeping districts where I have been the dread of foul brood is great. It has broken out in several places, and there is a fear that when the bees are carried to the heather it will spread. Suppose you got your 'adoptive' act, and Roxburgh, which is almost exempt, took it up, while Northumberland, where it is prevalent, did not, what good would it do? The bees from the two counties during the heather season are placed side by side. There is a great outcry for legislation on the Borders, and some disappointment that it has not been obtained for this autumn."

BRITISH BEE-KEEPERS' ASSOCIATION.

EXAMINATION FOR THIRD-CLASS CERTIFICATES AT HALIFAX.

An examination of candidates for third-class certificates will be held at Halifax on Thursday, August 8, commencing at 10 a.m. Applications to be made to Mr. R. A. Grimshaw, secretary of the Yorkshire Bee-keepers' Association, Horsforth, Leeds, or to the secretary of the British Bee-Keepers' Association, John Huckle, King's Langley, Herts.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE JOTTINGS.

FROM HIGHWAYS AND BY-PATHS.

[2123.] *Do Bees carry Eggs?*—This question has to me been surrounded with some few elements of doubt, but a letter received whilst these notes were under consideration pretty well removes from my mind any uncertainty I may have previously had, and furnishes on the point one of the most interesting cases that have come under my notice. A bee-keeper, who is also a first-class expert, purchased a laying queen of this year from me, which I despatched in the usual way, after keeping her (as is my custom) from twelve to twenty-four hours in a warm place. I do this in order to give the queen the opportunity of relieving herself of any superabundance of eggs before being shaken in the post. Having rid herself of these eggs (which the bees usually eat!), she is considerably reduced in size, and consequently in better condition for travelling. But, to return, I am pleased to say the circumstances I am about to record may be accepted as authentic, coming from the source they do. My correspondent says:—"I made the stock queenless when writing you first, and kept a sharp look out to detect any possibility of there being a fertile worker, and on Friday night" (a too brief space of time having elapsed for the bees to have produced a fresh queen, so that this element does not enter into consideration), "when the new queen arrived, I examined thoroughly all the frames again, but there were no signs of eggs at all. I put the queen (caged) on a comb the same night, and left her till the following Monday, when I found the queen still caged. I then noticed a few eggs in the cells of one of the combs." My correspondent then let matters remain as they were, and continues:—"On Wednesday morning I examined again, and found quite a number of cells, perhaps 200, with young brood and eggs, some just hatching, some a few hours old!" The queen was released and accepted by the bees, and has

been seen since peaceably occupied in her maternal duties. The points for consideration are:—(1) Was there a queen in the hive before the one received from me was caged therein? I should say no, otherwise the new queen would have been refused when released.

(2) Was there a laying worker? I am forced to the negative conclusion, because the time would not have been sufficient to have developed her latent ovipositing powers.

(3) Did the caged queen lay the eggs? There is little doubt that she did, and that the bees, anxious for a "mother," had actually gathered up the eggs—of which the over-charged queen had relieved herself—and themselves placed them in worker cells for hatching out in the ordinary way!

This we are told is "instinct." It appears to me to be something more than that; but, not to digress, we will talk of this another time. If a laying worker laid those eggs, the resultant bees will be *drones*, so that this point will soon be decided. On the other hand, if there had been another queen in the hive the fact of the case being dealt with by an expert makes it certain that she would have been found beyond a doubt. The other points bearing on the subsequent well-being of the queen corroborates this, so that, provided the eggs deposited in the worker-cells develop into worker-bees, it is clear they were laid by a mother-bee. If this is shown to be so, it will also be equally clear that the eggs were those of the caged queen; and the question "Do bees carry eggs?" may then be certainly answered in the future in the affirmative?—

Bee-houses.—I think there are comparatively few readers who are acquainted with the luxury of a good bee-house, and with the comfort and ease with which bees can be worked and manipulations carried out under the shelter thereof. I have for years kept two fairly good-sized houses going, and am so satisfied with the result that a third one is being built for me. In constructing a house for this purpose, much, of course, depends on the space and the cash available for the purpose. Very small houses cannot be recommended. I consider a good size about 12 ft. long by 8 ft. wide, with a span roof, and about 9 ft. in height. The door in the middle of one end, and the window on the sunny side. This window is made to turn on a pivot in the centre, and having an outside shutter, which, when closed, makes the interior almost dark. A house of the above dimensions will accommodate from twelve to eighteen stocks, ranged round the interior, either in one or two tiers. I used to work the hives in two tiers, but experience makes me prefer a single row about 1 ft. from the ground, ranged round the house. Handling hives on the top row caused much inconvenience, hence its being given up. Under the shelter of a sound roof we are practically independent of the weather, and on rainy days much work can be done which would otherwise be left undone. Another advantage is that lighter and less expensive hives can be used, roofs being entirely dispensed with. Fewer coverings, too, are needed in summer, and for winter a chaff cushion or a bundle of quilts and newspapers spread over the tops of the hives is all that is necessary. In all my experience with wintering bees in houses, I have only lost one stock. Another point is that bees can be more easily handled inside than in the open. Any that fly make straight for the window or door, and are gone, instead of buzzing and annoying the operator as they do when hives are manipulated outside. Then a very important point with timid manipulators is the fact that bees are much less disposed to sting indoors than out. Surplus honey, empty frames, combs, and stores can be stored in such a house, and be always at hand; feeding, too, is done with the certainty that, once the house is closed, no robber bees will be dodging round about the hives in the dark; and, *entre nous*, it is also one of the greatest comforts in bee-keeping to be able to go inside one's bee-house, and do what is necessary about hives and bees without our actions being followed, may be, by the inquiring eyes of well-meaning, no doubt, but distinctly inquisitive neighbours. The chance of an "upset" in the apiary when bees are in a "hut," is also very remote indeed. There are, no doubt, a few disadvantages as a "set off," but with care they can be easily overcome, as they chiefly relate to cleanliness and orderliness. First, we have dirt; next, spiders; then mice, the latter finding most snug winter's quarters between the warm coverings of a strong stock, but I do not find them do much harm, and they are easily got rid of.—H. W. Brice, *Thornton Heath.*

QUEEN-REARING.

[2124.] I am much obliged to your correspondent, Mr. Brice, for replying, on page 273, to my questions on his method of queen-raising. I feel, however, that the replies do not altogether meet the point at issue, or it may be that I put the questions under a misapprehension of Mr. Brice's real views on the subject. I was under the impression after reading his article (2071), page 373 and seq. of B.B.J. of September 20, 1894, that he objected to queens raised naturally by stocks under the swarming impulse, on the ground that the queens so raised were frequently, and indeed, generally produced from larvæ which had passed some days as worker larvæ, and were, therefore, only partially differentiated queens. He says, "Undoubtedly the very worst method of rearing queens is the let-alone method. . . . . Take a hive that has just swarmed, for instance, on examination we find several cells, some just capped, others only partly completed. Then comes the important question — What was the age of the larvæ when the first royal food was given to the young grub. The chances are that it was

too old for good results, for although bees build rudimentary cells prior to swarming, I never saw a queen lay an egg in one yet. . . . . The next question is, Do the bees place eggs in embryo cells? They may; but I am more inclined to the view that it is the young grubs that are placed therein by bees. Has it ever been recorded that these empty embryo queen-cells are the identical cells which are used eventually for raising queens? I think not. I am, therefore, of opinion that . . . . in the majority of cases the cells are built round the young larvæ, and in practically every case round larvæ over thirty-six hours old."

Since I wrote my last letter I have had abundant and convincing evidence that when a colony intends to swarm, eggs, not larvæ, are normally deposited in the queen cells, and whether they are deposited there by the queen or by the workers is nothing to the present purpose, though I see no reason, in the absence of proof one way or the other, to assume the latter. It is a point capable of solution, and I hope to do so next spring. Any beekeeper may convince himself of the truth of my statement by placing in centre of a colony possessing the swarming impulse, a half-sheet of foundation and examining in three days' time. He will find, if the impulse is strongly developed, probably a fringe of queen cells arranged in a surprising orderly manner along the lower edge of drawn-out foundation which preferably only extends about three or four inches from top bar, so as to be in centre of brood nest; and in numbers of these cells eggs will be found attached at base, and in fact this year I have raised many queens from combs so prepared. If, then, we leave out of account the possibly increased swarming tendency of such queens, which, after all, is not an unmixed evil, the queens produced under the natural swarming tendency, so far as feeding and rearing are concerned, are *fully* equal to any queens raised by any method; and, so far from being raised from worker-grubs, are always normally raised from eggs, and are by no means the "half-formed insect" of which Mr. B. speaks. Mr. B. further adds in the same article that, "after careful examination of many stocks about to supersede the reigning queen, I have found queen cells built over larvæ of different ages." As I do not keep old queens, I am not prepared to dispute this statement, which, however, seems a little at variance with the statement by the same writer in BRITISH BEE JOURNAL, July 11, 1895 [2116] that "It is well known to old hands at our craft that a finer queen will be raised when she is intended to supersede a failing one. Of the two, I am inclined to place more faith in the former statement. Mr. Brice, I understand, regards the superiority of the queen raised as directed, to be due to the fact that they are raised willingly. What does this argument really come to? If, as he thinks, the bees are impelled to raise new queens under the impression that the old one is failing, they will be still more willing to raise them if they think that the old queen is gone altogether, only in that case we have to guard against undue haste by allowing them only eggs, not larvæ. My own impression is that the queens raised as directed in article referred to are raised, not as supercession queens, but because bees have an instinct for continuing work begun, and also probably have an idea of swarming. If this is not the case, why does Mr. Brice insist on the necessity of raising them only at the natural swarming time? If they are raised as supercession queens any time would do provided food were abundant. I hope that my remarks on this matter will not be misunderstood. I do not for a moment wish to insinuate that good queens cannot be raised by the method suggested, all that I contend is that in so far as raising and feeding from the egg is concerned, they may be as good if taken sufficiently young, but they cannot possibly be *better* than queens produced under swarming impulse which are always normally intended for queens from the very start, and are deposited in the queen cups *before hatching*. With regard to who deposits them there (which is immaterial to the point at issue) since there is no record, so far as I know, of anyone having seen the queen lay in the queen cup, or the bees introducing the eggs, it is quite as logical to assume, in the absence of direct proof, the former to be true as the latter. Next year I shall introduce two half sheets of foundation to a stock under swarming impulse, separate by an excluder dummy, and introduce a comb of eggs beside the comb for queen cells in the queenless side. If, after a series of such experiments, I find queen cups with eggs in them on the queenless side, then we have proof that the bees put them there, but if they are invariably found only on the side where the queen is, we have strong presumptive evidence that the queen puts them there. I hope also to attempt a more direct proof, into which I will not enter at present. I shall, of course, use hives with an entrance at each end, so that each half, with the exception of queen, shall be precisely similarly situated. One more point before closing. Mr. Brice seems to think it was hardly fair of me to quote Mr. Cheshire in support of my argument. I should not have quoted him to support a theory, but merely to support an actually-observed fact—namely, that the queen-eggs, if I may use the word, are actually deposited (by somebody) in the queen cups; and he gives us a drawing of a cell, of which he actually made a section. No advance in theory can overcome a matter of direct observation of this kind, and I have fully verified, to my own satisfaction, the correctness of the observation. I am quite aware that some of the arguments brought forward by Mr. C. will no longer hold; and indeed, some of his negative statements—*e.g.*, that pollen is not deposited in

drone combs—are only approximately correct, as I have a sample of drone comb packed with pollen.

A few days ago I observed something which, so far as I know, has not yet been recorded, and I therefore mention it, though it has nothing to do with the point at issue. I had removed a couple of combs, one of which had a sealed queen's cell, with adhering bees to form a nucleus. In due course the queen hatched, but was some time before commencing to lay. Making an examination one morning, I found a queen cup *with an egg in it*; most of the rest of the brood had hatched, and there were no other eggs on the combs; of this I am certain. I somewhat damaged the cell opening it up to see into its base, and the bees immediately removed the egg. I replaced the comb and found on examination next day a considerable breadth of eggs. I can only infer that the very first egg the newly-mated queen laid was deposited in a queen cup, but the observation, so far as I know, is without parallel. I should be glad to hear if any bee-keeper has had a similar experience.—M. C. CLUTTERBUCK, *July* 15.

FOUL BROOD.

[2125.] It is indeed good news to learn that we are at length likely to have an official leaflet on the subject of foul brood, its detection and treatment, from the B.B.K.A., at the instigation, it appears, of the Agricultural Department. I suggested such a leaflet in your columns some months ago, and was soundly snubbed for my pains; whereupon I urged the Department to issue one, or at all events to ask the B.B.K.A. to do so, as a plain and simple duty. Such a leaflet will do endless good, and, moreover, reassure many panic-stricken bee-keepers. We had foul brood in a very bad form here, about four years ago, and then took the measures which have been described in the BEE JOURNAL. The cure, apparently, has been complete, for this year we have taken from ten hives to start with, nearly, if not quite, half a ton of honey of the finest quality. –E. BARTRUM, D.D., *Wakes Colne Rectory, Essex, July* 18.

[We share the gratification expressed by our Rev. correspondent at the prospect of a leaflet dealing with "the detection and treatment of foul brood" being issued by the Board of Agriculture. We also trust that the communication referred to as having been addressed by him to the Board on the subject may have had some weight, but simple justice to the special committee of the B.B.K.A.—who have so far had the matter in hand—compels us to add that the suggestion regarding the leaflet came entirely from themselves, and not from the outside. With reference also to what our correspondent facetiously describes as "a sound snubbing" administered to him in a footnote appended to a communication on the subject (which appears in our issue of March 7 page 96), our known respect and regard for the writer should render it unnecessary for us to disclaim the slightest intention of saying what could possibly be construed into anything of the kind. What we endeavoured to express was our opinion that to write a leaflet (as suggested by Dr. Bartrum on p. 96) "with plain and decided directions which simple folks could understand and act upon easily," and—to again quote the letter dealt with—"giving the latest, best, and cheapest cure" for foul brood, is beyond the ability of any man or men of the present day. To this opinion we still adhere, while none the less disclaiming any intention to "snub" our esteemed correspondent. The leaflet suggested at the conference on the 10th inst., for obvious reasons, stops very far short of this, its scope—as stated in the report on page 282—being limited to the "detection and treatment" of foul brood.—EDS.]

COMPLIMENTARY.

[2126.] Reading the other day one of the old numbers of the BRITISH BEE JOURNAL (January, 1890), I was struck by the difference (even allowing for January being a dull season for bee-keepers), I may say *vast* difference, in the character of the contents, as compared with the matter in the Journals of to-day. I cannot help feeling that such a Journal as the last (July 18) reflects very distinctly an awakening, and a general advance in bee-keeping all along the line. How delightfully interesting have been the letters from your foreign contributors! I wish to say how much I (shall I not rather say "we"?) appreciate them—the letters from Egypt (when shall we have another?); the letters from your Palestine friend; that interesting letter from the Argentine about the peach-blossom sections; and last, that very satisfactory letter from the Transvaal, Mr. Van der Merwe. There are other foreign letters that have been very instructive, from parts I forget; but all foreign contributors should know how we British bee-keepers delight in such contributions. May I add—though it seems selfish to say it—we hope that we shall not be flooded with foreign "contributions" of honey until the public taste has been so cultivated as to largely increase our present, though growing, home consumption! Then it is pleasant to see Mr. Grimshaw's name to that instructive letter on "Heredity." I fear it is a subject too wide for us bee-keepers, as a class, but it has its practical side. Then there is Mr. Jacomb-Hood's letter, to which your excellent correspondent, "H. W. B." is so well suited to contribute a brief reply on the circumstance. If I were the "pointsman" I would certainly "switch" him on to that line of things—where he is in his element—rather than let him run in a polemical "track.

Then there is Mr. Woodley, whose contributions are so eminently practical, "pricking up his ears" over the F.B. measure, showing how solicitous they are about the fate of the movement in Berks—good again! Then I am pleased, as well, surely, as Mr. Huckle must be, to see your correspondents appearing as subscribers in the recent list of new members to the B.B.K.A. (Mr. Jacomb-Hood's name, to wit). The B.B.K.A. foul brood campaign will cost the British a good deal of money. They must need funds, or in other words, *new members*, badly. Can Mr. Hood tell us what sort of a honey-field is Surbiton? Can Mr. Webster (another of your willing helpers) tell us whether the heather at Bagshot, Wisley Heath, Chobham, and the like, is of any good—substantial good—to bee-keepers? I fear not. I sympathise with "Man of Kent" and Mr. W. Woodley *re* honey-flow. In many parts of Kent the honey has literally *poured* in. Extractors have been in strong request; personally, I am "sticky" from head to foot. I dislike extracting honey, but what pursuit is wholly exempt from *some* disagreeable feature? I congratulate you, Messrs. Editors, and may your readers increase in every clime!—A. Beille, *Kent*, *July* 18.

DISTANCE BEES TRAVEL.

[2127.] May I trouble you to tell me if the notice below is, in your opinion, within the bounds of truth? And will you kindly tell me what is the recognised weight of nectar brought home by bees? I wrote this notice for a private show, but as I wish to send some sections to a public one, I should be very thankful to have your opinion.—"Tinker."

TO THE PUBLIC. PLEASE THINK OF THIS.

There are 12 sections of honey, each of one pound weight, in this case. 1 lb. equals 7,680 grains. Bees do not carry home more than one-tenth of a grain of nectar at a journey, so that each section represents 76,800 bee-loads. The average journey would be at least 500 yards, but hence the total distance covered by the bees in collecting nectar for one section at the lowest estimate would be 76,800,000 yards, or (say) 43,500 miles!

[As has been often said, "figures can be made to show anything," and, bearing this in mind, we are not quite satisfied that the above "showing" can be borne out by facts. Take the quantity of honey carried home by a bee in one journey. The weight stated (one-tenth of a grain) is too low. It is practically $\frac{1}{480}$th part of an ounce. Now, the honey-sac of a bee is said to have a capacity of about one-third of an ordinary "drop." Therefore, by the above calculation, there must be 1,600 ordinary drops in 1 oz., whereas we think that there are no more than 480. Considering, too, the specific gravity of honey compared with water, it will hardly be maintained that the calculation is a correct one.—Eds.]

EXAMINING BROOD COMBS.

TIME UNSEALED BROOD MAY BE EXPOSED WITHOUT DANGER OF CHILLING.

[2128.] It would be a great help to novice bee-keepers if some competent authority would give them some guide as to the length of time combs may be exposed to the open air without danger of chilling the brood in them. Of course, this will vary much with the temperature of the day, and whether there is wind or not. It may also be said that it is impossible, therefore, to lay down any rule. Still, it must be possible, I think, to say as a rough guide: "If the thermometer is under *so and so* in the shade, no frame should be lifted from the hive, while under the most favourable circumstances, *i.e.*, with the thermometer at or over *so much* and no wind blowing, brood may be handled with safety for *so long*, which is the maximum time brood should ever be kept out of its hive."

Thus with an approximate minimum and maximum to steer between our discretion might be expected to guide us safely.—Burley Beacon, *Ringwood*, *July* 16.

[Of the experienced bee-keeper it may be said that he can tell, without reference to thermometers, when it is safe to open hives, but in any other than warm weather he exposes unsealed brood for as short a time as possible, and never unnecessarily. This last precaution should be borne in mind by all who keep bees. For the rest, it may be said that the less hives are opened during the breeding season, when the temperature is lower than 60 deg. Fahr, the better. When, however, it becomes necessary to do so, such combs as have unsealed brood in them should not (and need not) be exposed for more than one or two minutes. With the temperature below 50, unsealed brood should not be exposed at all without real need for it, and when this occurs with the thermometer between 50 deg. and 60 deg. (especially if unprotected from wind) from half to one minute is long enough. In his articles on "Queen-Rearing," B.J. for October 4, 1894, page 395, Mr. H. W. Brice says:—"One of my experiments has been devoted to finding out, as nearly as possible, at what temperature very young larvæ will chill and die, and I find approximately that from four to five minutes outside at 65 deg. is fatal to it, while under the shelter of an open shed, protected from the wind, it is alive after fifteen minutes at the same temperature. But whether it would recover the effects of the chill if subjected to subsequent warmth I am at present unable to say.—Eds.]

EXPERTS' CERTIFICATES.

[2129.] In the editorial of July 11 great stress is put on the value of experts' certificates, and I fully endorse what you say on the subject; but when a candidate has entered for his exam., I think it rather misleading to have

a sort of syllabus of likely questions that are supposed to be on his set of papers, and then when the test is applied to find on his papers that there is only one of the set that really has any bearing on the particulars that were supplied in the syllabus. Perhaps this is a point for the Educational Committee to investigate; if so, here is another question I should like to see taken up by them, that is experts who have passed the special exam. on foul brood have no mark to that effect on their third-class certificate; the only place where it can be seen is in the annual report of the B.B.K.A., in its list of experts, where those that have passed are marked with an asterisk. Now, my suggestion is that, if we are entitled to the special mark we should also hold it on parchment, for which I have no doubt all would be willing to pay the cost of the certificate if it is granted to us.—F. H. B.

[Referring to the first portion of the above communication, our correspondent overlooks the fact that our leader on page 271 expressly deals with the Third Class Certificate, and with it only, and for this no "set of papers," nor, indeed, papers of any kind are used by those undergoing examination. In the remark about the candidate "finding on his papers" something he did not expect, our correspondent evidently has in mind the second-class exam., which consists entirely of paper-work, and has no bearing on the case in point.

The need for an addition to the Third Class certificate, notifying that the holder has passed the special exam. on foul brood, was dealt with at the last meeting of the Council of the B.B.K.A., on the 11th inst.—EDS.]

WEATHER REPORT.

WESTBOURNE, JUNE, 1895.

Rainfall, ·70 in.	Brightest Day, 20th, 14·50 hours.
Heaviest fall, ·32 in. on 13th.	Sunless Days, 0.
Rain fell on 6 days.	Above average, 34·5 hours.
Below average, 1·07 in.	Mn. Maximum, 67·1°.
Max. Temperature, 76° on 24th.	Mn. Minimum, 49·3°.
Min. Temperature, 36° on 16th.	Mean Temperature, 58·2°.
Minimum on grass, 29° on 16th.	Maximum Barometer, 30·49° on 25th.
Frosty nights, 0.	Minimum Barometer, 29·60° on 19th.
Sunshine, 248·7 hours.	

L. B. BIRKETT.

Queries and Replies.

[1324.] *When do Young Queens begin to Lay?*—I would be glad to know how soon after a queen-cell has been removed from the parent hive and placed with brood and bees in a nucleus, should eggs appear in the new colony? I made a nucleus on June 15; great numbers of young bees have hatched out, but the combs are rapidly filling with honey, and there are no signs of eggs. In another nucleus, made on June 17, I have seen the queen, but the condition of affairs is the same rapid ingathering of honey, but no sign of eggs. I have added sheets of foundation to give extra room. All conditions have been favourable for mating. The honey flow in Yorkshire just now is abnormal.—AMATEUR, *Hull, July* 3.

REPLY.—So many things must be taken into account so far as the general question put by our correspondent, that an accurate reply based on the information furnished is impossible. We know the queen would be hatched out in about fifteen days from the laying of the egg, and that she generally begins to lay in about a week after safe fertilisation, but beyond this we cannot go. Probably, however, the queens referred to will have begun their maternal duties by the time these lines are in print.

[1325.] *Completing Unfinished Sections.—Weight of Honey.*—I will be thankful for information on the following:—1. The top racks of sections on two hives are sealed over, with the exception of a few cells on the top row: Is this as near completion as they will be, or may I expect to get every cell sealed? The bees appear to have deserted the top lot, and are now working on sections in lower racks. Could I get these cells sealed by inverting the racks? 2. Could you give the weight of one gallon or the weight of 1 cubic foot of honey? 3. When extracting from new combs, what precautions can I take to avoid same breaking out of frames? The foundation is not wired.—JOHN TAYLER, *Eastney.*

REPLY.—1. Unless the honey season abruptly came to an end there is no reason why the few cells should not have been sealed by the time these lines are in print. But in any case, it would rather retard completion to change the position of section racks. 2. It is not possible to give the accurate weight of "a gallon," or of "one cubic foot of honey," owing to the variation in density or specific gravity of different honeys. For all practical purposes, however, it is enough to say that one gallon (four imperial quarts) of good honey will weigh about 15 or 16 pounds. 3. The "precautions" needed—besides carefulness—are (*a*) moderation in working the handle of extractor to avoid a too rapid movement of the revolving cage; (*b*) reversing the combs after a portion of the contents of one side has been thrown out, then extracting the second side, and, finally, reversing the combs again before removing the remaining honey from the first side operated on.

We regret delay in above reply, caused by our correspondent's letter being inadvertently mislaid.

[1326.] *Earwigs about Hives.—Using Queen-Excluder.*—I often find a good many earwigs about my bee-hives—*i.e.*, they get under the roofs, and harbour between the quilts. 1. Do they interfere with bees or honey, and what is the best way to keep them out of hive? 2. I also find a difficulty in getting bees to take to supers when using queen-excluder. Could you inform me what is the best way to manage supers, when using zinc excluders?—WILLIAM BRIGGS, *Dorking, July* 16.

REPLY.—1. For driving and keeping away earwigs, ants, moths, and all such insect bee-pests, we know of nothing that excels a good sprinkling of powdered naphthaline, in such places as they are likely to harbour. Used between quilts and hive coverings generally, it is valuable, too, in many ways besides those mentioned. 2. Other conditions being favourable, there is little difficulty in getting bees to pass through excluder zinc into supers. It is generally either lack of bees or of honey income that causes failure in nineteen out of twenty cases.

[1327.] *Transferring Bees from Cross-built Combs.*—A bee-keeper to whom I was talking tells me he has a frame-hive in which the bees have built the combs "across and anyhow," so that the frames cannot be moved. He is anxious to get them into a new hive prepared for a swarm, and with foundation in the frames. I advised him to put the old hive on the new one, and let the bees work down, removing the old hive when the brood had all hatched out. 1. Is it too late for this (our honey season is over)? or could the bees be driven, put into the lower hive, and excluder put on between the two hives to keep the queen below? 2. If this latter plan is the best, how should driving be done under the circumstances?—E. R., *Hambledon, Hants, July* 19.

REPLY.—The season is now over for transferring bees to new hive on the plan proposed. Nor do we advise following the alternative (or No. 2) plan. If the bees are to be allowed to transfer themselves to a hive prepared with full sheets of foundation placed below, it should be deferred till May next year. The present cross-built combs would then be used as a surplus-chamber, and removed when filled with the current season's produce.

[1328.] *Advising Beginners as to Driving Bees.*—I have a stock in skep which I wish to drive into a bar-frame hive; being only a beginner I am at a loss to know—1. When is the best time to drive them? 2. When will the hive be free from brood?—YOUNG BEGINNER, *Ellesmere, Salop, July* 15.

REPLY.—From the brief and very vague information furnished to us in the above, we incline towards recommending "Young Beginner" not to drive the bees from the skep at all (especially if it be his only stock), but keep them in what we suppose to be their present well-furnished home for the winter, and fit up the frame-hive with a swarm from the skep next season. On the other hand, if driving be decided upon, before we can give really helpful advice we should be told (1) If the stock is a strong one; (2) If it has already swarmed this season; (3) Whether it is itself a swarm hived during the current year; (4) If the frame-hive is intended to be fitted with ready-built combs, or with full sheets of foundation; and (5) If our correspondent has had any experience of driving and transferring? These points cleared up, we shall be in a position to advise, and will be glad to do so.

Bee Shows to Come.

July 24 and 25.—Cambs. and Isle of Ely B.K.A. At Ely, in connection with the C. and I. of E. Agricultural Society.

July 25.—Glamorgan B.K.A. Show at Barry, in connection with the Glam. Agricultural Society. Annual meeting of the Glam. B.K.A. will be held on Show Ground. E. Thornton, Hon. Sec.

July 25, 26, and 27.—Royal Lancashire Agricultural Society's Show at Preston. Entries closed.

July 25, 26.—Kent B.K.A. annual show (in connection with the Tunbridge Wells and South-Eastern Counties Agricultural Society), at Tunbridge Wells. Schedules from J. Garratt, Hon. Sec., Meopham, Kent.

August 5 (Bank Holiday).—Notts B.K.A. Annual County Show on the Sconce Hills, Newark. Eighteen classes for bees, hives, and honey, with liberal prizes. Several open classes. Entries close July 27. A. G. Pugh, hon. sec., N.B.K.A., 51, Mona-street, Beeston.

August 5.—Berks B.K.A., Newbury District, in connection with the flower show in Shaw-avenue, Newbury. Liberal prizes. Entries close August 2. Schedules from W. Hawkes, Hon. Sec., Newtown-road, Newbury.

August 5 and 6.—At Delapre Park, Northampton, Northants B.K.A. Annual Show. Nine classes for honey. *Special open class* for single 1-lb. jar of extracted honey. Five prizes: 1st, silver medal and 10s.; 2nd, 15s.; 3rd, 10s.; 4th, 5s.; 5th, 2s. 6d. Entries close July 25. Robt. Hefford, Hon. Sec., Boughton, Northants.

August 6 and 7.—Staffs. B.K.A., at West Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances. Schedules, from Harold Twentyman, Wolverhampton. Entries received until July 22.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries closed.

August 14 and 15.—Kent B.K.A., in connection with the Shepherdswell Horticultural

Show. Entries close August 8. J. Garratt, hon. sec., Meopham, Kent.

August 15.—Goole and District Agricultural Society. Annual show at Goole. Five open classes for bees and honey. Entries close August 8. J. Luddington and H. S. White, secretaries.

August 15.—Berks B.K.A. (Windsor district) Show, at Maidenhead, in connection with the Maidenhead Horticultural Society. Fourteen classes, with good prizes, for bees, hives, and honey. For schedules apply to the Hon. Sec., W. S. Darby, Consort Villas, Clewer.

August 21. — Wotton-under-Edge and District Bee-Keepers' Association. In the Town Hall, Wotton-under-Edge. Eight classes for honey. Entries close August 14. Schedules from the hon. sec., E. W. Read, Wotton-under-Edge.

August 21 and 22.—Shropshire B.K.A. annual exhibition of honey, hives, and bee-appliances in connection with the Shropshire Horticultural Society's great fête in "The Quarry," Shrewsbury. *Upwards of £35 in prizes.* For schedules apply T. Whittingham, secretary, Upton Magna, Shrewsbury. Entries close August 5.

August 22.—Show of bees, hives, and honey, in connection with the Horsham Horticultural Society's show at Springfield, Horsham. Entries close August 17. Lectures in Bee-tent by the Rev. C. Brereton. R. Gilburd, Sec., 39, Carfax, Horsham.

September 5th.—North Norfolk B.K.A. annual show in connection with the Holt Flower Show, to be held in the grounds of Brinton Hall. Two special open classes for single 1 lb. sections and 1 lb. jars of extracted honey. Entries close August 24. Schedules from the Hon. Sec., C. J. Cooke, Edgefield, Melton Constable, Norfolk.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

STAFFS. BEE-KEEPERS' ASSOCIATION.

A Third Class Examination

WILL BE HELD AT

WEST BROMWICH

On the Morning of August 7th.

Members wishing to present themselves as candidates are requested to send in their names without delay to the Hon. Sec., HAROLD TWENTYMAN, Wolverhampton. 154

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. E. DEWAR (Rockhampton, Australia).—We have written the Italian queen-breeder referred to on the matter dealt with in your note, and received his reply to say that he will explain the delay, and fulfil the order at once.

BEGINNER (Axminster).—*Unfinished Sections on Swarmed Stocks.*—When complaining because the bees will not complete unfinished sections, our correspondent should bear in mind that hives which have sent off two swarms this year are not in condition for storing surplus, because of their being denuded of nearly all the field workers. Any sections worth taking should, therefore, be removed without delay, or the probability is that their contents will be carried into the brood-chamber below.

NEW SUBSCRIBER (Elland). — *A Beginner's Queries.*—1. You need have no fear of the skep sending off another swarm this year. 2. If bees really require room (which we doubt), the only plan is to provide an "eke" of straw—same diameter as skep—or a wooden hopp for placing below the skep, and so adding about 3 in. to its present depth. 3. Rather than take a swarm in skep (hived only a few weeks ago) to the moors for no apparent reason beyond securing winter stores, we should save risk in journeying too and fro, and trouble by giving syrup at home if feeding is found to be necessary. 4. Bees are the ordinary sort. 5. We have no knowledge of your district as to its suitability for bee-keeping.

J. G. (Garswood). — Bee reached us (as usual when sent in an envelope unprotected) smashed flat in post, leaving no trace to guide us as to its breed or variety.

A. B. B. (Stourbridge).—The drone brood plainly shows that queen sent (though a fine one) has not been fertilised. Examine comb of eggs and brood given to see if queen cells are built. If none are found, give another comb with eggs, &c., in it, to try again.

SARUM.—*Bees Refusing Foundation.*—We have made inquiries, and are assured by the maker that no offensive lubricant has been used in rolling the foundation. Also that the super-foundation sent out by the firm this year has given every satisfaction to users. Was yours bought this season or in 1894?

GEO. BULLER (Burton-on-Trent).—*Carniolan Queen Breeders.*—The best dealer in these bees we know of is Michael Ambrogie, Moistrana, par Legenfeld, Carniolia, Austria. As, however, M. Ambrogie does not understand English, any letter to him should be written in German. If our correspondent is in any difficulty with regard to this let us know, and we may be able to help him.

INTERESTED (Redhill).—*Using Dark Honey for Candy-making.*—We should not mix more than 2 lb. of honey to 10 lb. of candy, stirring it in after removal of pan from the fire. Some persons don't trouble to extract the honey, but stir it in, wax and all.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

DRIVEN BEES FOR SALE EARLY. W. MARTIN, Well Cottage, Dawnley, High Wycombe. H 82

PURE BLACKS, Swarms, 5s., 10s. 6d.; Nuclei, 5s.; Queens, 3s.; free on rail; empties returned. ALSFORD, Expert, Blandford. 139

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BRERETON, Pulborough, Sussex. 109

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

WALLFLOWERS (dark) for early spring flowering, 1s. 6d. per 100; 10s. per 1,000, free. H. B. POLLARD, Evesham. H 76

FOR SALE, 28 HIVES of BEES and a Honey Extractor. Apply to HERBERT WILSON, Grocer, Methley, Leeds. H 75

PURE ITALIAN QUEENS, from LUCIA PAGLIA, Royal Bee Establishment, 5s. each. Cash with order. J. GREENHILL, 80, Graham-road, Wimbledon.

TWO STRONG STOCKS in SKEPS, healthy, sell cheap.—Apply at once, ROBERT CLOUGH, Townouse, Littleborough. H 82

SPLENDID WHITE CLOVER HONEY. Extracted 6½d. Comb 8½d. G. R. DOWNER, Drayton Manor, hichester. H 81

"HONEY AND ITS USES." By Rev. Gerard W. Bancks, M.A. 3s. 6d. per 100. Specimen copy t.—Address, The Green, Dartford. H 80

LACE PAPER for GLAZING SECTIONS. 100 strips, 22 inches long, 8d., 200, 1s. 3d., 300, 1s. 9d., 400, 2s. 3d., 500, 2s. 9d. Three neat patterns stocked. W. WOODLEY, Beedon, Newbury.

FINE TESTED 1895 FERTILE QUEENS, 3s. 6d. each. Safe arrival. 3-Frame Nuclei, including Queen, 10s. 6d. Bees 1s. 6d. lb. for 5 lb. lots or over, queen included. Guaranteed healthy. Boxes to be returned. C. WHITING, Valley Apiary, Hundon, Clare, Suffolk. H 79

FREEHOLD FARM, Two COTTAGES and Gardens, Waggon Lodge, Stable, Barn, Cow-sheds; 30 acres; south-west aspect, long road frontage. £16 per acre.—BEES WANTED. Don't burn bees, exchange garden seeds, roses, fruit trees, &c.—Particulars. LAND, Myrtle Villa, Hornchurch, Essex. H 78

I BEG to thank my Customers who have done business with me for so many years, and to ask them to forward their orders. I have some splendid Clover Honey (fit for any table), pale colour, and good aroma 7d. per lb. in 60 lb. tins. T. HOLLIDAY, The Apiary Astbury, Congleton. 153

1895 HYBRID QUEENS.—Special Ligurian Hybrids—Queens, tested, 5s. 6d. each; Virgin Queens, 3s. each. All Queens sent in my new Introducing Cages, post free. Safe arrival guaranteed. Orders executed in rotation. H. W. BRICE, Benlah-road N., Thornton Heath, Surrey.

YE OLDE ENGLISHE BEE.

Fine selected Fertile Queens, 3s. 6d. each; finest tested English Queens, 5s. each. Sent in my Introducing Cage, guaranteeing safe arrival. Parcel Postage 3d. W. WOODLEY, Beedon, Newbury.

SHROPSHIRE BEE-KEEPERS' ASSOCIATION.

EXHIBITION

OF

HONEY, HIVES, AND BEE APPLIANCES,

At which upwards of £35 in Prizes will be awarded.

To be held in connection with the

SHROPSHIRE HORTICULTURAL SOCIETY'S GREAT FETE

In THE QUARRY, SHREWSBURY,

On Wednesday and Thursday, Aug. 21st & 22nd.

Schedules of prizes and regulations from T. WHITTINGHAM, Secretary, Upton Magna, Shrewsbury.

ENTRIES CLOSE AUGUST 5th. 155

TO BEE-KEEPERS AND SECRETARIES OF COUNTY ASSOCIATIONS.

GEO. J. BULLER, Triangle, Hitchin, Herts

(Many years Foreman to Mr. T. B. Blow),

Is prepared to undertake the management of Bees and general expert work, by the day or season.

For terms, apply as above.

(DEALER IN BEE-KEEPING APPLIANCES.)

BEE-KEEPERS in LANCASHIRE and CHESHIRE, &c. THE CENTRAL SUPPLY STORES for all BEE REQUISITES is in LIVERPOOL 50, GREAT CHARLOTTE STREET. GEORGE ROSE. Why pay carriage from long distances, when you can buy as cheap and good locally, and *have your orders promptly attended to?* Catalogues gratis. Sow now CHAPMAN'S HONEY PLANT, 6d Packet. Expected shortly, big lot of HONEY JARS (screw and thrower). Large buyers, please write at once. Very low prices per crate of 3½ gross ex dock on arrival. Best Falcon Sections very low per 1,000 or 10,000.

SEASONABLE GOODS.

Finest Quality Sections ... ... 18/- 1,000; 2/3 100.
Stock Foundation... ... ... per pound, 2s.
Super Ditto ... ... „ 3s.
Honey Glasses, metal top ... ...gross 21s.
Glazed Case (both sides)... doz. 1s. 9d.; gross, 18s.
Special Honey Extractor, with cog wheel ... 35s.

SEND FOR A CATALOGUE.

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(27 Years with Neighbour & Sons.)

W. P. MEADOWS,

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SEASON GOODS.

My Patent Extractors, none to equal them. Super-Clearers, best made. Three prize medals. You can't successfully harvest Honey without them. Honey Ripeners and Honey Tins. Every Bee-Keeper must have my new 5s. Ripener. Section and Show Cases, &c. Address all letters "SYSTON," near Leicester.

CARBOLINE POMADE

(FOURTH SEASON).

Kills Bee-stings like magic.

CARBOLINE POMADE
Prevents the horrible smarting and burning inflammation.

CARBOLINE POMADE
Prevents getting stung, robbing, &c.

CARBOLINE POMADE
1s. per bottle, post free. T. HOLLIDAY, ASTBURY, CONGLETON.

Editorial, Notices, &c.

ROYAL LANCASHIRE AGRICULTURAL SOCIETY.

THE HONEY DEPARTMENT AT PRESTON.

The annual show of the above society was held at Preston on July 25, 26, and 27. So far as that part of the proceedings which precede the actual exhibition, everything promised well, the entries in all departments being numerous, and the local support so liberal as to make the prize-list a tempting one. It was also thought that the considerable amount of rain which had fallen in all parts of the kingdom for a few days prior to the opening day would have cleared the air for a sight of the sun and blue sky while the exhibition remained open. The fates, however, ordered otherwise, and the weather can only be described as bad right to the last day. Thanks to the foresight of the executive in the way of providing excellent footways of timber raised above the wet grass, visitors were enabled to get about with comparative comfort. The ground, too, was covered by so firm a turf that the grass never got worked into "puddles," as it sometimes does under the wear-and-tear of a big show in wet weather. But while the regret was general that Jupiter Pluvius should reign (either way of spelling the word will do) over the proceedings, there was a kind of comforting reflection in the fact that the financial position of the R.L.A.S. removed serious anxiety as to the "Gate." Had the weather been even fairly favourable there is no doubt but the show would have been one of the most successful ever held by the society.

The Royal Lancashire is one of the few large agricultural societies which make a point of providing for and liberally supporting a bee department in their annual show, all the prizes, excepting those in two special classes, being presented by the society; and it has occurred to us, while writing these lines, to suggest the advisability of the Lancashire and Cheshire B.K.A. considering whether they could not arrange for three or four additional classes (including one for cottagers only) in which the County Bee Association might give the prizes, and confine *their* competition to members only. There seems to us to be no difficulty in the way of such an arrangement, and it would enable the Agricultural Society to make all their classes "*open* to the United Kingdom," instead of two only, as is now done. This would no doubt bring an increased entry, apart from the fact of making it in every sense a good county show for the Bee Association; and we feel sure that an appeal to the members of the L. and C. B.K.A. for funds to meet the expenditure incurred in providing for prizes would meet with a generous response, the result being probably one of the best bee-shows in the country. Anyway, we venture to make the suggestion for what it is worth.

THE EXHIBITS.

The honey staged in the open classes was, as may be supposed, mainly from the South, some excellent exhibits appearing in the classes for both section and jars of extracted honey. The sections, indeed, were the finest we have seen this year. Nor was the extracted honey behind in merit, as will be seen from the awards. We were glad to see a fairly good display in the special class for extracted honey gathered within fifteen miles of the Preston Town Hall, the prizes (£3, £2, and £1) being sufficiently tempting to bring out the best honey the county could produce. After awarding first and second prizes, the judge (with permission of the donor, divided the third prize into two sums of 10s. each, there being nothing to choose between the next two exhibits in point of merit.

In the class for "Most interesting and instructive exhibit of any kind connected with bee-culture" the first prize went to a good collection of bee-appliances, and the second to a new form of super-clearer.

Mr. W. Broughton Carr judged the exhibits, and made the following awards:—

Twelve 1-lb. Sections.—1st, Wm. Woodley, Beedon, Newbury; 2nd, Geo. Bush, Petersfield, Hants; 3rd, R. Brown, Somersham, Hunts; v.h.c., Rev. R. T. Shea, Southend, Essex, and F. E. Smith, Lichfield; h.c., E. C. R. White, Salisbury.

Twelve 1-lb. Jars Extracted Honey.—1st, E. D. Till, Eynsford, Kent; 2nd, Owen Roberts, Tarporley; 3rd, E. C. R. White; v.h.c. B. Crisp, Henley-on-Thames, and H. W. Seymour, Henley-on-Thames; h.c., Dr. B. E. Jones, Freckleton, near Preston; c., Wm. Woodley, and W. H. Ley, Easton, Stamford.

Twelve 1-lb. Jars Extracted Honey (County only).—1st, Jos. F. Williamson, Fleetwood; 2nd, Dr. B. E. Jones; 3rd, Thos. Parker, Myerscough, Preston.

Twelve 1-lb. Sections (County only).—1st, Jos. F. Williamson; 2nd, Dr. B. E. Jones; 3rd, John Hale, Croston, Preston.

Exhibit of Honey not under 50-lbs.—1st, Dr. B. E. Jones.

Twelve 1-lb. Jars Extracted Honey.—Special Prize, limited to residents with 15 miles of Preston.—1st, Dr. B. E. Jones; 2nd, Jas. Cragg, Great Eccleston, Garstang; equal 3rd, John Hale and Robert Rymer, Hesketh Bank, Preston; v.h.c., R. Jolly, Wren Green, Kirkham.

Most Interesting Exhibit connected with Bee-culture.—1st, Geo. Rose, Great Charlotte-street, Liverpool; 2nd, Harold M. Ryans, Malpas, Cheshire.

On the second day of the show Mr. Carr conducted an examination for third-class experts' certificates, six candidates presenting themselves for examination.

KENT BEE-KEEPERS' ASSOCIATION.

The K.B.K.A. had a very successful show in connection with the Tunbridge Wells Agricultural Society on July 25 and 26. The entries numbered 123, and the quality of the exhibits staged was of a very high order of merit. Mr. J. M. Hooker officiated as judge, and made the following awards :—

Observatory Hive. — 1st, E. Drincqbier, Dover ; 2nd, C. T. Overton, Crawley.

Twenty-four 1-*lb. Sections.*—1st, Rev. G. W. Bancks, Dartford ; 2nd, E. D. Till, Eynsford ; 3rd, F. Langley, Sevenoaks.

Twelve 1-*lb. Sections.*—1st, The Horticultural College, Swanley ; 2nd, South Eastern College, Wye ; 3rd, E. Drincqbier ; h.c., E. Seymour and Rev. J. E. R. Jones.

Twenty-four 1-*lb. Jars Extracted Honey.*—1st, F. Swanzy, Sevenoaks ; 2nd, E. D. Till ; 3rd, E. Longhurst, Longfield.

Twelve 1-*lb. Jars Extracted Honey.*—1st, F. Langley ; 2nd, South Eastern College, Wye ; 3rd, E. Longhurst ; h.c., A. Chapman.

Display of Honey, not over 100 *lb.*—1st, Rev. G. W. Bancks ; 2nd, E. Longhurst ; 3rd, H. E. Jeal, Hadlow.

Display of Comb Honey not over 25 *lb.*—1st, Horticultural College ; 2nd, W. Smith, Shepherdswell ; 3rd, E. Drincqbier.

COTTAGERS ONLY.

Twelve 1-*lb. Sections.*—1st, F. S. Bensted, Sittingbourne ; 2nd, E. E. Smith, Southfleet ; 3rd, J. Bridge, Polegate.

Six 1-*lb. Sections.*—1st, F. Langley ; 2nd, T. Earl, Three Bridges ; 3rd, R. Frederick, Sevenoaks.

Twelve 1-*lb. Jars Extracted Honey.*—1st, F. Langley ; 2nd, R. Frederick ; 3rd, E. E. Smith.

Six 1-*lb. Jars Extracted Honey.*—1st, R. Frederick.

BEE-APPLIANCES.

Collection of Appliances.—1st, T. Lanaway & Sons, Redhill ; 2nd, C. T. Overton, Crawley ; 3rd, J. S. Greenhill, Wimbledon.

Frame Hive, not exceeding 10*s.*—1st, J. S. Greenhill ; 2nd, C. Redshaw, South Wigston ; 3rd, T. Lanaway & Sons.

MISCELLANEOUS.

Beeswax.—1st, E. Longhurst ; 2nd, A. J. Carter, Billingshurst ; 3rd, T. Earl.

Honey Beverages.—1st, Rev. G. W. Bancks.

Objects of General Apiarian Interest.—1st, H. W. Brice, for *Artificial Queen Cells, and Live Bees and Queens, Illustrating System.*

Equal 1st, Mrs. G. W. Bancks, for *Display of Dried Bee-Flowers and Painted ditto.*

Mr. Hooker, assisted by the Rev. G. W. Bancks, afterwards held an examination of candidates for third-class experts' certificates. —(*Communicated.*)

LINCS. AGRICULTURAL SOCIETY.

The annual show of this society was held at Grantham on July 17, 18, and 19, when the department devoted to bees, hives, and honey was well represented, some first-class honey and sections being staged, as well as four large exhibits of honey in the form of "collections." Lectures on bee-keeping were given at frequent intervals every day by Mr. R. Green, of Rainham, Kent. The total number of entries in the bee department was 61, the judge being Mr. Brown, of Winterton, whose awards were as follows :—

Twelve 1-*lb. Sections.*—1st, G. E. Fancourt, Stamford ; 2nd, P. Sharp, Brant Broughton ; 3rd, E. C. R. White, Salisbury ; 4th, H. O. Smith, Louth.

Twelve 1-*lb. Jars Extracted Honey.*—1st, H. Johnson, Scawby ; 2nd, A. W. Weatherhoff, Willoughton ; 3rd, R. Godson, Tothill ; 4th, G. Taylor, Bracebridge ; h.c., Right Hon. Earl of Winchilsea and Notts, and J. Emmerson, Lincoln ; c., Miss Ethel Chester, Melton Mowbray ; H. W. Arbuckle, Thorne, Doncaster ; and D. Seamer, Grimsby.

Six 1-*lb. Jars Extracted Honey* (cottagers only).—1st, N. Prestow, Grantham ; 2nd, G. Taylor ; 3rd, F. G. Davy, Leybourne.

Twelve 1-*lb. Jars Granulated Honey.*—1st, F. J. Cribb, Gainsboro'.

Collection of Honey.—1st, and bronze medal of the Lincs. B.K.A., A. W. Weatherhoff ; 2nd, Tom Sells, Uppington ; 3rd, J. Emerson ; 4th, and silver medal of the Lincs. B.K.A., G. C. Fancourt.

Observatory Hive.—1st, D. Seamer ; 2nd, R. Godson.

Collection of Hives and Appliances.—1st, W. P. Meadows.

Best Frame Hive for General Use.—1st, 2nd, and 3rd, W. P. Meadows.

Best Frame Hive for Cottagers' Use.—1st and 2nd, W. P. Meadows.

Best Extractor. — 1st and 2nd, W. P Meadows.

Pair of Section Racks. — 1st, W. P Meadows ; 2nd, J. S. Greenhill, Wimbledon.

Rapid Feeder.—1st, W. P. Meadows ; 2nd J. S. Greenhill.

An excellent collection of lantern slides, illustrating the apparatus used in bee-keeping, the development of the honey bee and manipulations with bees, as well as photos of several apiaries, was exhibited by Mr. F. J. Cribb, of Gainsboro'.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2130.] The drought has broken up with a heavy rainfall, and our cisterns are full to overflowing; the dried up vegetation of a fortnight ago has put on a mantle of green, the cereal crops have improved, and, though the harvest is delayed by cloudy, sunless weather, it gladdens the heart of the farmer to know that the bulk and yield of his crops will be increased, and that a crop of roots and food for his cattle is ensured. The welcome change will also prove not only a present help to the bee-keeper, but lay the foundation of a successful season for him another year, so that we may look forward with hope to 1896. We have reached the end of our honey harvest in this district. The little honey now gathered will be required for brood-rearing. Pollen has been freely carried into the hives during the last few days, and on Friday last bees were busy bringing in honey during a few hours' sunshine. My globe-thistles are in bloom, and bees are on them all day when it is not raining.

To those who still keep their bees in straw hives and "take" them in August, I say the sooner they "take" them when the season is over the larger the produce from them will be. For those also who wish to get their bees by driving, the sooner it is done the more advantageous it will be to both parties, but especially the "driver." I would also suggest to my readers that if you are driving a cottager's bees—said cottager being, perhaps, a poor agricultural labourer, working for 9s. or 10s. per week—don't accept them as a gift; give a fair if not a generous price for them, remembering that the bees you carry off take with them probably a pound or more of the poor man's honey.

Do Martins or Swallows Eat Bees? is a question that has been put to me several times lately. My answer has been "Yes, I believe they do." My reason for this belief is that at the side of my house I have three hives standing, the bees taking flight along the side and spreading out away in front of the house, under the weather-tiling of which are some dozen martins' nests. Towards the end of June these birds—whose nests I can reach with my hand—so upset the bees, either by catching them when on the wing or by flying about constantly in their line of flight—that I notice the bees chase the martins, several bees pursuing each bird—and when the latter got beyond range, the infuriated bees vented their rage on any moving thing near, be it man, woman, child, or animal. I watched carefully, and on several occasions saw a heavily laden bee slowing down in its flight on nearing its home; then a martin would glide in a line behind it, and in a moment the bird passed on, but no bee was to be seen. I did not actually see the bird catch the bee, but the latter was gone! As a protection, therefore, to my bees and those of my neighbours, I decided that the martins must quit. The nests were broken down, the eggs sharing the same fate; the bees then returned to their normal temper and pursued the even tenour of their way. Notwithstanding the ruthless destruction of the nests, however, a few have started building again; but another year I shall prevent their building at all so near the hives.

Do Bees Carry Eggs? is a question I cannot personally answer in the affirmative. Some inexplicable things happen sometimes which lead one to almost agree that they do; but what looks so positive at one time has not seldom to be relegated to the negative position again. On the other hand, I ask, "What becomes of, say, a dozen queens that are allowed to hatch out in a hive, and the matter of selection is left to the bees? Which of those queens shall take the duties of queen-mother, and what becomes of the ten or eleven others? Have bees a language, and is it possible that some of these virgin queens may introduce themselves, and be received by the queenless stock? In my large experience some inexplicable things have occurred in connection with queens. This last spring I had a hive that was queenless and broodless in May; there were a good number of bees, and as the combs were old, I left them on five frames (as the honey flow came on) to fill the brood combs with honey, intending later in the season to add a swarm and three or four sheets of foundation, and thus renew the stock. But when I looked in again in June there were both eggs and brood in the hive, and on searching I found a fine queen at the head of the now improving colony. Where did the queen come from? Did the bees steal the egg to rear a queen, or did some virgin queen introduce herself? If the bees stole the egg from another hive, why do colonies ever die out from queenlessness after breeding has commenced in the spring, and eggs can be had for the fetching from other hives? Rather would I say that if virgin queens, or mated queens out on their wedding tour, enter a queenless colony, depend on it either the one, and espe-

cially the other, would be joyfully received by the colony lacking the very source of its life and prosperity.

I believe—nay, I have had enough experience to lay it down as a fact—that the greatest obstacle to successful queen introduction has been the handling of queens in the various processes of introduction. — W. WOODLEY, *Beedon, Newbury.*

HEREDITY IN BEES.

[2131.] I shall have much pleasure in reading Mr. Grimshaw's paper on 'Heredity in Bees," and thank him for the reference on page 284. Meanwhile, I have only to say that, since Mr. Grimshaw objects to my use of the word digestion, I am quite willing to withdraw it, but still the fact remains,—or at least so I think,—that the body of which the bee is composed is obtained by cell division from the original fertilised ovum of the mother-bee, and therefore partakes of the character of the queen and drone. The food-stuff supplied by the workers is, therefore, only of assistance in nourishing the developing cells of the body of the future bee, so that I must adhere to my statement that there is no continuity of cell life between the foster-mother and the grub nourished by it. If it be true that mental properties are conveyed from the old to the young worker bees I should rather be inclined to attribute it to imitation afterwards. Let me mention another analogous case, *i.e.*, that of the tumbler pigeon. Here it is of no consequence what happens to be the breed of the parents by which the young birds are nourished ; but afterwards, when flying, it is necessary to keep them away from other birds, or they are apt to acquire the habit of flying as the latter do, and so gradually lose the tendency to tumble at all. I do not, however, put this forward as beyond a suggestion, and am inclined to think that where re-queening is not found to effect a change in disposition, the vicious bees have destroyed the queen introduced and raised another, orelse that sufficient time is not allowed to let the former breed of bees die out before deciding about their temper. I do not propose to enlarge on the question any more at present, but will add that it is entirely on *theoretical* and *not practical grounds* that I am inclined to doubt the theory propounded by Mr. Grimshaw, and chiefly, as I have already said, because I consider that the whole body of the bee is derived by cell division from the ovum. However, I may perhaps be converted after reading the paper on heredity referred to in the first sentence of my letter. Mr. Grimshaw quotes Mr. Cowan in support of his theory. I do not know what the latter gentleman's views are, but I note in the replies to queries—for which, I presume, the editors are responsible—No. 1315, p. 276 (July 11, 1895), reads as follows :—"Bee sent is a hybrid Italian. It occasionally happens that first-cross hybrids are viciously inclined. It cannot be accounted for ; there is no remedy, save re-queening." The writer of that reply evidently believes that the bees owe their temper to their parents, and not their foster parents.—M. C. CLUTTERBUCK, *July* 22.

Without any reference to the scientific aspect of the matter under discussion, or venturing an opinion upon abstruse points—which, though very interesting, are "deep down"—we may just say here that the reply quoted was based upon a fact so familiar to experienced bee-keepers as to be generally accepted—from the practical standpoint—without entering into the reasons why and wherefore. Regarding, also, what our correspondent mentions as Mr. Cowan's support of Mr. Grimshaw's theory, our senior editor is, unfortunately, not available just now for a personal reply ; but we have no doubt of his being able—if necessary—to maintain any "views" which he may have expressed on the subject.—EDS. (W. B. C.)

AT THE TUNBRIDGE WELLS SHOW.

[2132.] There was so much at the above show to interest bee-keepers generally that I hope you will allow me space to record my own impressions of the occasion in your pages. It was a decided success. The quantity of honey, and the quality, too, were all that could be wished. There were several Sussex exhibits of fine honey. Mr. Overton (Crawley), Mr. Lanaway (Redhill), and Mr. Greenhill (Wimbledon) helped the show by a capital collection of hives and appliances. Much interest was manifested by visitors in the observatory hives, of which three were staged. A quantity of the honey was sold, and many orders booked. One or two large consumers of honey came. One who buys West Indian at very low price said he would prefer to (and will) use English at double the cost after tasting Kent and Sussex samples. The principal Tunbridge Wells chemists and grocers were visited by a member of the K.B.K.A. in the hope that they would buy largely, but only one enterprising grocer took any, and he bought four dozen screw caps of the prize exhibit, half labelled and half not. The wretched stuff sold as British honey in the shops is a serious discouragement to consumers of honey. The sooner the county labels get into general use the better. At Tunbridge Wells show the K.B.K.A. labels were most conspicuous on the exhibits. Other county associations should urge the adoption of the label, and endeavour to expose the spurious honey that now does duty in so many shops for the genuine thing. To taste some of the shop honey was quite enough to explain why honey does not come more into general use. It is uninviting in appearance, and it is dear as well as bad. On the other hand, it was delightful to sample the

honey staged at the show, and to see how many appreciated the Kent and Sussex honey.

The Horticultural College at Swanley carried off two firsts. Two of the Swanley College lady students were very useful as helpers at the show, and were in for third-class expert certificates. There were three or four other candidates for certificates, and several passed successfully. Examination of two had to be adjourned for lack of time. It is a satisfactory feature to see bee-keepers, and especially ladies, coming forward for this work in such good numbers.

Much interest was manifested in the honey-vinegar. It would be well to repeat the simple recipe in an early number of the B.B.J. Several seemed eager to make it after tasting Mr. Bancks' fine exhibit. It is certain that those who once try will not go back to shop-vinegar. It is cheap, wholesome, and palatable. By using an extra quantity of honey one gets a splendid acid beverage that will compare favourably with raspberry vinegar.

Several vans were used to bring the honey from long distances—one as far as twenty-three miles off—collecting exhibits on the road, saving much trouble and risk in packing for rail.

The show on such a scale is new in the Tunbridge Wells district. It will cost the K.B.K.A. a large item—about £50, including prizes. Contributions in aid will be very welcome, as the South-Eastern Agricultural Society give no grant. The show has unquestionably helped the bee-keeping industry, and particularly in Kent and Sussex. Several Surrey bee-keepers asked for information, and there were many inquiries as to when Sussex is likely to have an association.—A KENT BEE KEEPER, *July* 27.

"HELPFUL HINTS FOR HARD TIMES."

[2133.] Now that the political disturbance of our surroundings is over, perhaps it will not be out of place if a few thoughts be given to the Agricultural question admitted on all hands to be ripe for dealing with. "From Land's End to John O' Groats" the farmer is having his withers wrung as to how to make farming pay, so that anything that is calculated to let in gleams of light through the dark curtain of "hard times" should be particularly welcome, and such come to hand in the admirable little handbooks edited by the Rev. E. Bartrum, D.D., and bearing the above title. Dr. Bartrum, who is a prominent member of our association, has enlisted the services of the best men possible for the work, amongst whom we need but mention G. Bunyard on "Fruit Culture," and D. T. Fish on "Kitchen-garden Matters." The subjects already dealt with by experts in these penny handbooks are apples, pears, cherries, strawberries, gooseberries, and currants, potatoes, onions, mushrooms, geese and turkeys, ducks and fowls, the dairy and butter, temporary and permanent pastures, heavy clays, stock and dairy cattle, willows and osiers; last but not least beekeeping will shortly be dealt with in "Bees and Honey." To read these little books is to come to the conclusion that they are a marvel of concise, practical information without any superfluous wordy matter, and as such, they ought to be in the hands of everyone interested in the helping on of the small cultivator to whom we must, after all, have to look some day in our turn unless we wish to see our town densely packed with a congested mass of people struggling to live and our fair pastoral Britain denuded of its rural population.—R. A. H. G., *Horsforth, Leeds*, July 29.

BEES IN A LETTER-BOX.

[2134.] On Saturday, the 6th July, the rural letter-carrier from Caistor to Irby, in North Lincolnshire, reported to his postmaster that a swarm of bees had gone into the letter-box at Irby, and consequently the villagers could not post their letters. I was asked to go over and take them out, but when I got there (a distance of six miles over the Wolds) I was told the bees had all come out, about ten minutes previous to my arrival. I returned home in consequence, rather disappointed. However, it appears they had not gone very far, for after hanging upon a tree all night, at about eight o'clock on Sunday morning they again took possession of the letter-box (an iron one built into the wall). I was again asked to dislodge them, but as I could not afford the time for a second long journey, I advised (in the event of no one volunteering to get them out) that sulphur should be put into the box in order to drive them out, or destroy them. The letter-carrier, however, did not quite like the idea of having to open the box door and set fire to the sulphur, as it was a very large swarm. The matter being reported to the head office, the Caistor postmaster was asked to get them out by some means, and the authorities suggested that I should again go over to Irby, and get the bees out without destroying them. On Friday afternoon, the 12th inst., I made the second journey, and upon unlocking and opening the box door what a sight was presented. The box appeared full of bees, and beautiful slabs of comb, built from the top, the longest of which was about twelve inches, the whole of the combs nearly filled with honey, and a few of the top cells already sealed over. The task of removal seemed so formidable I almost despaired of succeeding, but set to work by giving a dose of smoke. I then worked my hand carefully between the combs, and one by one broke them away, brushed off the bees, and gave the combs to the onlooking villagers. After an hour and a half hard work I appeared to be about as near getting them out as at the commencement; but the bees shortly began to show signs of giving in by coming out of the slot

and forming clusters, which I swept into a skep with a brush, but they preferred settling upon myself to staying in the skep until I was literally covered with bees from head to foot. At last I had evidently swept her majesty into the hive, for the bees did not fly out again. I then brushed as many bees off myself on to the cloth as I could, and the greater part ran into the hive, much to my delight. After that matters were comparatively easy, but it took me about two and a half hours to complete the job, get them tied up in the skep, clean out the box, brush it well all over with carbolic solution, and get ready for home. I ran the bees into a frame-hive, in which I placed three frames of honey and one of brood from another hive, and so far they are working away, and appear as happy as sandboys. The bees weighed 4 lb. 4 oz., I suppose about 20,000. I think I shall place "V.R." in vermilion letters upon that stock.—CHAS. AINGER, *Caistor, Lincs.*

A GOOD HARVEST.

[2135.] I write to say that I have this season taken 162 lb. of honey from one hive holding tenStandard frames. It was all super honey stored in standard and shallow frames, and all got above the brood nest with excluder zinc between. I have not touched the brood chamber since I put the supers on, and the honey was weighed after extracting. I first took off ten standard frames which gave me 40 lb. ; then ten wide-spaced shallow-frames, yielding 60 lb., then 36 lb. more from standards, and last Friday I took the shallow-frames off again and extracted 26 lb. more from them. Can you tell me if more than that quantity has ever been taken from one hive? I have also taken 115 lb. from a swarm.—H. MAY, *Tetsworth, Oxon,* July 27.

[162 lb. is an excellent result from one hive in a single season. It has, however, often been exceeded in very good seasons. Several reports of over 200 lb. from one hive having been recorded.—EDS.]

SURBITON AS A HONEY DISTRICT.

[2136.] A correspondent (2126, p. 295) asks for information as to the value of this district as a honey-field.

If he knows Surbiton, and the conditions of our existence here, he will understand that a neighbourhood so well covered with bricks and mortar is not likely to prove an ideal collecting ground for honey ; but southwards and westwards of us there are nice stretches of open country, well-farmed, chiefly for dairy purposes, which yield fair supplies of bee-food from such crops as clover and sainfoin. We have also an abundance of early fruit blossom around us, but the main source of supply is the limes. Of these there are a great number about, and they may be taken as our only reliable crop. The honey harvest here this year has been most disappointing. I am able to sympathise fully with "Man of Kent," because his case is a parallel one to mine. With stocks in good order early and ready for an abundant honey-flow, practically nothing was done between the passing of the apple-blossom in May and the opening of the limes during the first week of July. No sooner were the limes opened than the crop of blossom was over, and I have as a result practically no honey harvest this year. The fine exhibition of lime-honey collected at Lewisham, that was shown at Tunbridge Wells, certainly does not confirm my experience, but neighbouring bee-keepers are little better off than I am. In many parts of Surrey, however, I hear that the harvest has been unusually good.—J. W. JACOMB HOOD, *Surbiton, July* 27.

CLEARING SUPERS.

[2137.] Having seen a great many super-cleaners mentioned in B.J., I just wish to tell you how I get my supers cleared. I take a rack of empty sections, and set it on a board away from the hive ; then set the full one on top of this, give the bees a few puffs of smoke in at the top, and cover over with a cloth. I have found this to answer its purpose very well, not more than about a score of bees remaining in the super, as the bees go down into the empty crate. This may be of use to some one who can't well afford to buy fancy appliances.—CONSTANT READER, *Longtown, Cumberland.*

Queries and Replies.

[1329.] *Temperature at which Honey and Wax Melt.*—Can you oblige by telling me—1. What is the lowest temperature at which granulated honey will reliquify ? 2. What is the highest temperature to which it can be subjected without injury ? 3. What is the melting point of wax ?—SARUM, *Salisbury, July* 27.

REPLY.—1. We have never experimented with the object of settling this point. Practically it is enough to know that vessels containing honey for remelting should be immersed in water hot enough to make it uncomfortable to hold the finger in it. 2. We consider that the aroma is destroyed and the flavour deteriorated if honey is subjected to a temperature above 150 deg. 3. Beeswax melts at from 145 deg. to 150 deg. Fahr.

[1330.] *White-eyed Drones.—Judging Sections.*—Can you tell me :—1. What is the matter with the enclosed drones ? They come out of hives blind and dash themselves against any obstacle ; their eyes, as you see, are white. None of the drones in ten other hives are like these. 2. Is the "Guide Book" correct in stating that pure Italians are of a more

amiable disposition than blacks, and less inclined to string? I do not find them so; mine are not only waspish in colour, but also in temper. 3. What are the points in judging section honey, and what relative number of marks would you give to each point? 4. Does the paper-lacing or delicacy of the "get-up" of the tin case count much? 5. Is it usual this season, north of York, to get both one's shallow-frames and 1-lb. sections filled by a reasonably good stock?—AJAX, *Kirkby-Stephen, July* 20.

REPLY.—1. White-eyed (or Albino) drones though not common, are occasionally found in hives. They are abnormal bees, of course, but the peculiarity so far as we know has never been satisfactorily accounted for. The white scale over the eyes renders the insect quite blind, and when once they leave the hive they never return to it. In some dead drones we have examined when the scale was peeled off the eye seemed to be all right underneath. 2. As a rule the *pure* Ligurian is the quietest bee known. The probability is that yours are a first cross and not pure, these latter being often very vicious if bred from an Italian queen and a black drone. 3. Experienced judges rarely decide by "marks." The good points in a section of honey are colour, evenness of capping, and absence of any "coarseness" in capping, fewness of unsealed cells, and absence of pop-holes. 4. The perfect cleanness of section and its attractive appearance or "get-up" count, of course, but not so much as the first-named points. 5. We cannot answer for this season but it is quite common to get both sections and shallow frames for extracting from a good stock in one season.

[1331.] *Increasing Stocks.*—I have a hive of Italian bees—not very strong, but with a good 1895 queen—and I wish to increase my stock of this kind of bee. Would the following plan be likely to succeed?—1. I propose to form a nucleus by taking two or three frames of unsealed brood out of the hive, putting them into a new hive, and placing the latter on the old stand. Of course, doing it when the bees are flying, and by this means getting all the bees that are out at the time into the nucleus hive. I know that it is late for making a nucleus, and that doing so would very much weaken the parent stock; but I could put a driven lot of bees into each of the hives, and feed them well in the autumn. 2. Would the queen, hatched by the bees in the nucleus hive, and mated by a drone from the parent stock, be a good one? 3. I read in the B.B.K. "Guide Book" that, having formed a nucleus, it is "now ready to receive queen-cells." Is it necessary to introduce queen-cells if I give the bees some eggs to raise a queen from? 4. How far does a young queen fly when she goes on her mating trip? 5. How far apart should I have to place a hive of black bees so as to keep them separate from the Italians, or the Italians from the blacks? — F. THOMPSON, *Cashel, co. Tipperary, July* 27.

REPLY.—1. You would be more likely to succeed by making an artificial swarm from the ligurian stock, as directed in "Guide Book" on p. 92. You would, however, require to make sure of some drones before operating, and also doing it promptly. 2. No concern need be felt on this head, as there is little chance of keeping the Italian bees pure so long as there are other drones about. 3. Queen-cells are far more certain than eggs, for it not seldom happens that bees refuse to raise queen-cells late in the season. 4. There is no given distance, but mating usually takes place within a mile of the hive. 5. Three or four miles, and even this distance will not always ensure perfect isolation.

[1332.] *Removing Bees from Roof.*—In the spring of 1894 a strong swarm took up its abode above an attic window in my house. The bees lived all through the winter, and now they form a very strong stock indeed. I intend to break in upon them from inside the room by opening a hole in the ceiling, after the honey season is over, to get whatever honey there may be, but I wish also, if it be possible, to save the bees. Now perhaps you, Messrs. Editors, or some of our veteran bee-keepers will give a novice some hints as to the *modus operandi* of driving the above-mentioned stock from their present abode into more modern quarters. Is the following plan feasible? Towards evening fasten a skep above the entrance on roof; and with a little sulphur (not enough to bring them down) drive bees out on to the slates and, if possible, into the skep. (Would smoke be preferable?) Carry off the skep to where the hive is to stand. Cut out combs, fit them in frames, and hive bees. Close up entrance in roof so that bees cannot return. Suppose queen were lost or destroyed during operations would the bees stay in their new quarters, a few yards from the house? 2. When would be the most suitable time to make the attempt? We are in the vicinity of the heather here. While Mr. Wm. Woodley, in your issue of July 18 (2118), is complaining of drought, we have been getting rain in torrents. For nearly three weeks now the bees have done nothing—though there is plenty of clover—on account of the wet. In the beginning of June the clover yielded beautifully, and for three weeks or thereby honey was being gathered in abundance; then the weather broke, and sections left on the hives are now being rapidly emptied. But limes are coming into flower now, and if fine weather returns soon the bees might be able to do a little yet.—DEESIDE, *N.B., July* 26.

REPLY.—No plan of removing the bees is so likely to succeed as taking off slates to expose the combs, and, after smoking the bees well, cut out the combs one by one, brush the bees off, and allow them to enter a skep

fixed to receive them. Keep the brood-combs as warm as possible, and when all are secured tie them into the frames of the hive into which it is proposed to run the bees. For the rest, we reply :—1. If queen is lost during the operation, there is a chance of another being raised, but it is not certain it will be so, or that the bees will remain in the hive at all unless some young brood and eggs are given to them. 2. It should be done as soon as convenient.

[1333.] *Fertile Workers.*—I am strongly of opinion that I have a "laying worker" in one of my hives. When I have ascertained beyond doubt that this is so, what is my best plan for getting rid of her? The stock has already thrown out an Italian queen on introduction.—SOUTH COAST, *July* 27.

REPLY.—We should advise bringing this colony into close proximity with one containing a laying queen, and eventually joining them together, or better still, divide the combs of the stock between the other hives.

Bee Shows to Come.

August 5 (Bank Holiday).—Notts B.K.A. Annual County Show on the Sconce Hills, Newark.

August 5.—Berks B.K.A., Newbury District, in connection with the flower show in Shaw-avenue, Newbury. Liberal prizes. Entries close August 2. Schedules from W. Hawkes, Hon. Sec., Newtown-road, Newbury.

August 5 and 6.—At Delapre Park, Northampton, Northants B.K.A. Annual Show.

August 6 and 7.—Staffs. B.K.A., at West Bromwich. In connection with the Staffs. Agricultural Society's meeting. Twenty classes for bees, honey, and appliances.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries closed.

August 14 and 15.—Kent B.K.A., in connection with the Shepherdswell Horticultural Show. Entries close August 8. J. Garratt, hon. sec., Meopham, Kent.

August 15.—Goole and District Agricultural Society. Annual show at Goole. Five open classes for bees and honey. Entries close August 8. J. Luddington and H. S. White, secretaries.

August 15.—Berks B.K.A. (Windsor district) Show, at Maidenhead, in connection with the Maidenhead Horticultural Society. Fourteen classes, with good prizes, for bees, hives, and honey. For schedules apply to the Hon. Sec., W. S. Darby, Consort Villas, Clewer.

August 21. — Wotton-under-Edge and District Bee-Keepers' Association. In the Town Hall, Wotton-under-Edge. Eight classes for honey. Entries close August 14. Schedules from the hon. sec., E. W. Read' Wotton-under-Edge.

August 21 and 22.—Shropshire B.K.A. annual exhibition of honey, hives, and bee-appliances in connection with the Shropshire Horticultural Society's great fête in "The Quarry," Shrewsbury. *Upwards of £35 in prizes.* For schedules apply T. Whittingham, secretary, Upton Magna, Shrewsbury. Entries close August 5.

August 21.—Wilts B.K.A., in connection with the Swindon Horticultural Fête in the Public Gardens, Old Swindon. Nineteen classes for honey (seven open classes) but no appliances. Entries close August 14. Schedules from hon. sec., Rev. W. E. Burkitt, Buttermere Rectory, Hungerford.

August 22.—Show of bees, hives, and honey, in connection with the Horsham Horticultural Society's show at Springfield, Horsham. Entries close August 17. Lectures in Bee-tent by the Rev. C. Brereton. R. Gilburd, Sec., 39, Carfax, Horsham.

August 28.—Lancs. and Cheshire B.K.A. at Fleetwood, Lancs. In connection with the Horticultural Society. Show of honey. Open to Lancashire and Cheshire only. Sec., J. F. Williamson, 18, Bold-street, Fleetwood. Entries close August 14.

August 31.—Manchester and District B.K.A. at Worsley; in connection with Worsley Horticultural and Agricultural Show. Six classes for bees, hives, and honey. Liberal prizes. Entries close August 20. Schedules from Mr. Upjohn, Worsley, Manchester.

September 5. — North Norfolk B.K.A. annual show in connection with the Holt Flower Show, to be held in the grounds of Brinton Hall. Two special open classes for single 1 lb. sections and 1 lb. jars of extracted honey. Entries close August 24. Schedules from the Hon. Sec., C. J. Cooke, Edgefield, Melton Constable, Norfolk.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

September 3 and 4, South of Scotland B.K.A.—Annual Honey Show in connection with the S. of S. Horticultural Society's show at Dumfries, nineteen classes for honey. Over fifty prizes. Entries close August 30. John Currie, Secretary, 7, Assembly-street, Dumfries.

September 28. — Roxburghshire B.K.A. Annual Show in the Corn Exchange, Jedburgh. Numerous prizes. Entries close September 24. Thos. Clark, Secretary. Pleasants, Jedburgh.

October 8, 9, 10, and 11.—Dairy show at the Agricultural Hall, London. Liberal prizes in five classes for honey. Open to all. Entries close September 9. For schedules apply Wm. C. Young, sec. Dairy Farmers' Association, 12, Hanover-square, London.

STAFFS. BEE-KEEPERS' ASSOCIATION.

A Third Class Examination
WILL BE HELD AT
WEST BROMWICH
On the Morning of August 7th.

Members wishing to present themselves as candidates are requested to send in their names without delay to the Hon. Sec., HAROLD TWENTYMAN, Wolverhampton. 154

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. WALLIS (Manchester). — *Examination for Experts' Certificates.*—An examination of candidates for third-class certificates took place at the Preston Show on Friday last, in connection with the Lancashire and Cheshire B.K.A. We are not aware of any other examination announced to be held in the county this year, but the Secretary of the B.B.K.A., Mr. J. Huckle, King's Langley, Herts, will furnish all particulars if written to.

A WORKER (Tadcaster). — *Non-granulating Californian Honey.*—We can scarcely go the length of saying that honey which we have never even seen is impure, even though "sold as Californian, which does not granulate." We should, however, very strongly suspect the presence of glucose in non-granulating honey. And, for confirmation of this suspicion, there is the fact that all pure honey gathered in this country *does* granulate.

W. S. T. (Marsham).—*Treating Foul Brood. Measuring Naphthol Beta.*—1. Both samples of comb are affected with foul brood. 2. The best advice we can offer as to treatment was given in B.J. for June 6 last (p. 221). 3. The ounce packet of N. beta is put into an eight-ounce medicine bottle—to be had from any chemist, marked off in one-ounce divisions—the bottle being then half filled with pure methylated spirit and shaken till the crystals are dissolved. Then add more of the spirit till the line marking the seventh division is reached; shake well, and the liquid is then ready for use. One tablespoonful of this solution, or half a division, medicates the syrup made from 10 lb. of sugar.

W. T. ROBERTS (Freshfield).—*Reversing Boxes of Shallow Frames.* 1. Mr. Jas. Heddon, an American bee-keeper of repute, some years ago introduced and advocated the use of what is known as the "Heddon" reversible hive. It had a short run of prominence here for a short time, but soon fell into disuse among British bee-keepers, as we predicted it would from the first. The idea was—among other things— to handle hives instead of frames. 2. The sample of honey sent is a good one, excellent in colour and aroma, and very fair in flavour. It is, however, rather poor in consistency, which gives the impression that it has been extracted from sections and not fully ripe.

JOHN M. HENDERSON (Hamworthy).—1. Bees sent are merely immature drones. 2. We should judge that the portion of the swarm which returned to the parent hive did so because of the box into which you hived them being already supplied with a comb of bees before hiving the swarm. 3. By "Inspectors" we presume you mean "experts" employed by county associations to assist members, but there is no county bee-association in Dorset. The advantage to your bush-fruit crop is obvious, and you are only one of many fruit-growers who have found out how advantageous bees are to the crop.

M.A. (Ince).—*Honey Dew.*—Honey dew can be detected by the flavour and colour of the honey when extracted; or by an examination of the foliage of the trees in the neighbourhood. It is not injurious save that it spoils honey for market and table purposes, without affecting its keeping properties. 4. It does not interfere with granulation.

CUMBO (Carnforth).—1. We prefer the "New Guinea" extractor of the two. 2. Leave the unfinished sections on for completion at the heather. 3. Heather honey can only be got from the combs by means of a "honey-press." 4. Full sheets secure better sections. Use pale yellow foundation of any good make. 5. No. When uniting, it is *safer* to cage the queen if you are inexperienced. 6. Yes.

W. HOUSTON (Colorand). — *Bees by Post.*— The bees arrived smashed flat in post, and utterly unfit for identification.

Several letters, queries, &c., are unavoidably held over till next week's issue.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

SIX Strong Stocks BEES, Bar-framed Hives, 20s. each. BOYES, Woburn Sands. H 88

WANTED, several strong lots DRIVEN BEES, with Queens. Dr. WALKER, Kirkby-Stephen. H 83

SEVERAL TONS of ENGLISH HONEY WANTED. Send price and sample to LUDOVIC NOEL, 7, Soho-square, London, W. 156

WILL EXCHANGE Stocks of BEES, on Bar-frames, for a Cushion-tyre Safety BICYCLE. E. GARNER, Broom, near Biggleswade, Beds. H 85

HEALTHY DRIVEN BEES, and their Queen, at 1s. 3d. per lb. Box to be returned carriage paid. E. GARNER, Broom, near Biggleswade, Beds. H 91

WANTED, SECTIONS and RUN HONEY in bulk. Send lowest prices, with samples, to SAVERY, Madrid, Clay Hill, Enfield. H 84

Prepaid Advertisements *(Continued)*

FOR SALE, Two-Frame Observatory HIVE, 12s. Packed free on rail. WATKIN BIRD, Priory-street, Huntingdon-road, Cambs.

PURE BLACKS, Swarms, 5s., 10s. 6d.; Nuclei, 5s.; Queens, 3s.; free on rail; empties returned. ALSFORD, Expert, Blandford. 139

WALLFLOWERS (dark) for early spring flowering, 1s. 6d. per 100; 10s. per 1,000, free. H. B. POLLARD, Evesham. H 76

PURE ITALIAN QUEENS, from LUCIA PAGLIA, Royal Bee Establishment, 5s. each. Cash with der. J. GREENHILL, 80, Graham-road, Wimbledon.

"HONEY AND ITS USES." By Rev. Gerard W. Bancks, M.A. 3s. 6d. per 100. Specimen copy sent. Address, The Green, Dartford. H 80

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BREERETON, Pulborough, Sussex. 109

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

LACE PAPER for GLAZING SECTIONS. 100 strips, 22 inches long, 8d., 200, 1s. 3d., 300, 1s. 9d., 400, 2s. 3d., 500, 2s. 9d. Three neat patterns stocked. W. WOODLEY, Beedon, Newbury.

20 DOZ. SCREW-TOP BOTTLES (Honey), 1-lb. size; 5 doz. Glazed SECTIONS, well filled, FOR DISPOSAL. All 8s. per doz. Deposit. WALTER ROGERS, Princes Risborough, Bucks. H 87

FOR SALE, Two Strong STOCKS, in first-rate Bar Hives, Extractor, 3 Feeders, extra Frames, Foundation, Swarm Catcher, 2 Skeps, Super-Crates, Handbooks, &c. £4 the lot. G. STRONG, Strawberry Hill-road, Twickenham, Middlesex. H 86

FINE TESTED 1895 FERTILE QUEENS, 3s. 6d. each. Safe arrival. 3-Frame Nuclei, including Queen, 10s. 6d. Bees 1s. 6d. lb. for 5 lb. lots or over, queen included. Guaranteed healthy. Boxes to be returned. C. WHITING, Valley Apiary, Hundon, Clare, Suffolk. H 79

I BEG to thank my Customers who have done business with me for so many years, and to ask them to forward their orders. I have some splendid Clover Honey (fit for any table), pale colour, and good aroma, 7d. per lb. in 60 lb. tins. T. HOLLIDAY, The Apiary, Astbury, Congleton. 153

1895 HYBRID QUEENS.—Special Ligurian Hybrids—Queens, tested, 5s. 6d. each; Virgin Queens, 3s. each. All Queens sent in my new Introducing Cages, post free. Safe arrival guaranteed. Orders executed in rotation. H. W. BRICE, Beulah-road N., Thornton Heath, Surrey.

YE OLDE ENGLISHE BEE.

Fine selected Fertile Queens, 3s. 6d. each; finest tested English Queens, 5s. each. Sent in my Introducing Cage, guaranteeing safe arrival. Parcel Postage 3d. W. WOODLEY, Beedon, Newbury.

BLAKEY'S BEE FEEDER.

Made of wood, zinc, and glass. Holds one pint of syrup, and can be filled without removing from hive, and bees may be observed as they take the food without escaping. Price 6d. each. Postage of one costs 4½d., two 6d., four 9d., six 1s. 1d. J. M. BALMBRA, 2, East-parade, Alnwick, Northumberland.

SCREW-CAP HONEY BOTTLES,

English Make. Cheap. Clean. Handy.

16-oz. size, per 10 doz., 12/9; 8-oz. size, per 6 doz., 7/-. Packing free.

EXPERT SMOKER (Patent applied for).

Both hands at liberty to work frames.

An OLD BEE-KEEPER'S Testimony:—"With the valve added, your little Smoker is perfect." *Post free 2s.*

W. T. GARNETT, Steade Road, Sheffield.

SHROPSHIRE BEE-KEEPERS' ASSOCIATION.

EXHIBITION
OF
HONEY, HIVES, AND BEE APPLIANCES,

At which upwards of **£35** in Prizes will be awarded.

To be held in connection with the

SHROPSHIRE HORTICULTURAL SOCIETY'S GREAT FÊTE

In THE QUARRY, SHREWSBURY,

On Wednesday and Thursday, Aug. 21st & 22nd.

Schedules of prizes and regulations from T. WHITTINGHAM, Secretary, Upton Magna, Shrewsbury.

ENTRIES CLOSE AUGUST 5th. 155

TO BEE-KEEPERS AND SECRETARIES OF COUNTY ASSOCIATIONS.

GEO. J. BULLER, Triangle, Hitchin, Herts

(Many years Foreman to Mr. T. B. Blow),

Is prepared to undertake the management of Bees and general expert work, by the day or season.

For terms, apply as above.

(DEALER IN BEE-KEEPING APPLIANCES.)

BEE-KEEPERS in LANCASHIRE and CHESHIRE, &c. THE CENTRAL SUPPLY STORES for all BEE REQUISITES is in LIVERPOOL 50, GREAT CHARLOTTE STREET. GEORGE ROSE. Why pay carriage from long distances, when you can buy as cheap and good locally, and *have your orders promptly attended to?* Catalogues gratis. Sow now CHAPMAN'S HONEY PLANT, 6d. Packet. Expected shortly, big lot of HONEY JARS (screw and tieover). Large buyers, please write at once. Very low prices per crate of 3½ gross ex dock on arrival. Best Falcon Sections very low per 1,000 or 10,000.

SPECIAL NOTICE.

J. S. CREENHILL has been awarded **FIRST PRIZE** for his **Ten Shilling Cottage Hive,** at Tunbridge Wells Show, a most suitable Hive for Cottagers,

Metal-top Glasses, with wads ... ... per gross 21s.

Glaze Cases (both sides) ... 1s. 9d. doz.; 18s. gross.

J. S. CREENHILL, 80, Graham-road, Wimbledon.

(27 Years with Neighbour & Sons.)

DON'T GET STUNG!

WHEN, BY USING **APIFUGE** YOU CAN PREVENT IT.

BEE-KEEPERS SAY IT IS MARVELLOUS, AND THEY WOULD NOT BE WITHOUT IT.

Send for a Bottle at once.

Small Bottles 1/-, Large Bottles, 1/9, Post Free. *Cash must accompany Order.*

To be obtained of all Appliance Dealers and

DARCY GRIMSHAW, HORSFORTH, LEEDS.

CARBOLINE POMADE

(FOURTH SEASON).

Kills Bee-stings like magic.

CARBOLINE POMADE
Prevents the horrible smarting and burning inflammation.

CARBOLINE POMADE
Prevents getting stung, robbing, &c.

CARBOLINE POMADE
1s. per bottle, post free. T. HOLLIDAY, ASTBURY, CONGLETON.

E. J. BURTT, *For HIVES made of carefully selected and seasoned wood. For EXTRACTORS FOUNDATION, SECTIONS, SMOKERS, &c. &c*

GLOUCESTER. Is a very good Railway Centre for the West of England.

Illustrated Catalogue Free.

Editorial, Notices, &c.

USEFUL HINTS.

WEATHER. — Still more rain almost daily, and, in consequence, still less chance of securing any further income from second-crop clover. Instead of surplus being added to, the probability is that unsealed honey now in supers will be taken down into brood-chambers below by the bees if not removed at once. Only the heather, therefore, now remains for those whose bees are located near it, and we can but hope with them for a dry August.

ADULTERATED BEES-WAX FOR FOUNDATION-MAKING.—A sheet of paper reaches us by post, on which is written neither name nor address of sender, or even a date, but simply these words:—

QUERY (*a*) May I have super-foundation and observatory brood-foundation made from pure white bees-wax. (*b*) How would super-foundation of pale yellow wax with 50 per cent. of paraffin-wax do? (*c*) Has that percentage ever been known to break down when worked out for sections?

We judge our anonymous correspondent to be a new reader of this journal—first, from the terms in which his query is put; second, from his entire ignorance of our views, and those of bee-keepers generally, on the subject of adulterated beeswax for foundation making; and third, from his non-compliance with our rule regarding anonymous communications. Notwithstanding all this, however, and in the interest of good bee-keeping, we gladly overlook "non-compliance" in order to inform our correspondent on the several points raised. To begin with then (*a*) we say: Pure beeswax is what all bee-keepers look for and hope to get when buying comb-foundation, but what is generally sold as "pure white beeswax" is a long way from being "pure;" and in any case, white wax, whether pure or not, is unsuitable for foundation making. Beeswax can only be made white by being bleached, and bleaching spoils it for use as foundation for comb-building. (*b*) Beeswax (no matter of what colour) adulterated with 50 per cent. of paraffin wax is utterly unfit for giving to bees in the shape of comb foundation, and the manufacturer who makes up such a combination into foundation, or the dealer who sells it for the purpose, commits a fraud upon bee-keepers. (*c*) Apart from the almost certainty of a breakdown, we say that persons who knowingly sell foundation so adulterated can only be characterised as swindlers.

(*Remainder of "Hints" next week.*)

RESULT OF APPEAL

ON BEHALF OF THE WIDOW AND FAMILY OF THE LATE THOMAS BADCOCK.

A FURTHER GENEROUS OFFER.

In publishing below a full list of donations to the fund for the benefit of Mrs. Badcock and family it was intended to close the list with this issue, but we are induced to leave it open for a short time longer in consequence of a generous offer made to us at the Preston Show by two gentlemen (who are already donors to the fund) to give a further sum of 10s. each conditionally on eight others being found willing to subscribe a like sum, and thus increase the fund by an additional £5. One 10s. has already been promised, and it goes without saying how pleased we shall be if the names of seven more donors are forthcoming.

A Friend	£4	0	0
T. W. Cowan	1	1	0
J. Garratt	1	1	0
A. T. M. Pipon	1	1	0
BEE JOURNAL and RECORD ...	1	0	0
Henry Jonas	1	0	0
E. D. Till	0	10	0
Miss Till	0	10	0
Dr. Bartrum, D.D.	0	10	0
H. W. Brice	0	5	0
A. W. Harrison	0	5	0
Elvey Smith	0	5	0
S. P. J.	0	5	0
A. G. P.	0	5	0
Hawley Bowler	0	5	0
J. Huckle	0	5	0
R. Green	0	5	0
Miss Beach..	0	5	0
F. Armstrong	0	5	0
J. M. Hooker	0	5	0
Friend at Farningham	0	5	0
Geo. Roberts	0	5	0
W. H. Harris	0	5	0
W. J. Anstey	0	5	0
Christopher Wade	0	5	0
Dr. B. E. Jones	0	5	0
Geo. Wells...	0	3	0
W. W. Culwick	0	2	6
Miss Tarr	0	2	6
T. W. J.	0	2	6
J. R.	0	2	6
Rev. T. R. Shea	0	2	6
R. Illman	0	2	6
Native of Islay	0	2	6
G. Newman	0	1	0
Total	£15	19	6

IRISH BEE-KEEPERS' ASSOCIATION.

The Committee met on 1st. inst. Present, Mr. Read in the chair, Mr. Gillies, Captain Millner and Mr. Chenevix (Hon. Sec., 15, Morehampton-road, Dublin.) As the result of the examination held lately at Strabane, certificates of competency as, Experts in Modern Bee-keeping were granted by the Irish Bee-keepers' Association to Rev. A. H. Delaf, Rector of Strabane; Messrs. Samuel & Isaac Crawford, Lisnacloon, Castlederg; and Mr. David Wray, Male N. School, Donegal. Mr. J. J. Macrea, of Lislane, Fivemiletown, was appointed District Hon. Secretary for County Tyrone. It was reported that the lectures in the bee-tent, both at Churchtown House, County Kerry, and at Strabane, had been very well attended and much interest shown on both occasions.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE JOTTINGS

FROM HIGHWAYS AND BY-PATHS.

[2138.] *Do Bees carry Eggs?*—Referring to this subject, I have to thank the Editor of the *Revue Internationale d'Apiculture* for the following facts gathered from an article in that paper, a translation of the salient points of which will, I think, pretty conclusively decide this question of bees removing eggs. M. Ed. Bertrand says :—

"The question whether worker bees are capable of carrying eggs from one comb to another, with the object of raising queens, has again been made the subject of inquiry in various quarters, and has caused some divergence of opinion. One correspondent described how he had met with cases of bees carrying eggs, but that from such eggs only male larvæ resulted. He also stated that eggs found in the condition mentioned were invariably produced by laying workers." This statement provoked some discussion, into which I need not here enter. M. Bertrand, however, continues : — "The question of the removal of eggs by workers was settled long ago for readers of the *Revue* at the time as well as for ourselves; in fact, we have several times published observations on this subject emanating from experienced and reliable persons. The following editorial footnote was added by us to an article which appeared in our *Bulletin* of January, 1884 :—'The removal of eggs or of larvæ by workers, therefore, no longer presents any doubt to ourselves, especially after the statements of Langstroth and of many other observers so entirely worthy of credence.' Here is an extract from what Langstroth wrote in November, 1878, in *Gleanings* :—'In the year 1864, having a very strong but queenless colony, without young larvæ or any means of raising a queen, it occurred to me that if I could supply the bees with eggs or young larvæ in a very small quantity, it would, perhaps, cause them to raise queens of exceptional size and beauty. I therefore gave them a piece of comb about ½ in. wide and 3 in. long, containing suitable larvæ. On examining this some days later, I found at least a dozen queen cells started, and, with the head of a pin, removed the queen larvæ from all but four of the cells, leaving nothing in the others. When these four cells were sealed over I thought it would be advantageous to raise by means of this strong colony a second series of queens. Having inserted the first piece of comb, in a position expressly prepared for this purpose between the frame and the comb, I put the second piece in a similar place on the other side of the same frame. Some days later, I examined the comb, to see how things were going on, and I was surprised at not finding any queen-cells commenced in the last piece inserted, nor any larvæ in the cells. On looking at the piece first inserted, I found, to my amazement, that all four of the queen-cells, the larvæ of which I had taken out, were again occupied, and that these cells were much more advanced than at the time when I destroyed their first occupants. The bees were evidently determined not to throw away the labour devoted to the construction of the first series of cells, and consequently had carried into these as many as they required of the larvæ from the cells of workers on the opposite side of the comb. Fourteen years have since elapsed, and I still feel something of the enthusiastic joy that I experienced when I showed these wonders to my family and also mentioned them in the JOURNAL which I have taken since 1852.'

"The same Langstroth also says in his remarkable work, 'The Hive and the Honey-bee,' (fourth edition, p. 219):—Huber has shown that bees usually do not carry the eggs of the queen from one cell to another. I have, however, had the opportunity of knowing several cases in which they have carried workers' eggs into the maternal cell. Mr. Wagner (well known as an apiarist, and founder of the *American Bee Journal*) put some queenless bees, brought from another locality, on to empty combs which had been in

his attic for two years. When he gave them some breeding-cells they raised a queen in one of these empty combs! Mr. Richard Colvin, of Baltimore, as well as other bee friends, have informed me of similar incidents quite as striking." Mr. Bertrand continues:—"We could mention, amongst much unexceptionable evidence, two very conclusive observations made by a well-known apiarist in Italy, the Rev. Joseph Franceschi, Prior of Catignano. They are related in a very concise manner, in *l'Apicoltore* (for the years 1873, p. 184, and 1874, p. 107), and leave no doubt as to the fact that worker-bees, in certain special and determined circumstances, carry eggs or larvæ from one cell, and even from one comb to another. Finally, we do not think that at the present time any true apiarist denies the fact."

Honey Labels.—Your correspondent "A Kent Bee-keeper" (2132, p. 364), in last week's issue, touches a tender spot when mentioning the "wretched stuff" sold as British honey. There is clearly a bad leak somewhere, when on p. 272 we read that the foreign import of honey into the United Kingdom "for June, 1895, was £9,926." Where has it gone to, and what has it been sold as? How much of it has been sold and palmed off under labels describing it as "pure English honey" and "British honey?" I gather from inquiries made that tons of doubtful honey are brought into this country and sold as "British." So no wonder we hear people say they don't care very much for honey. Why? Simply because they have never had a chance of testing the pure British product. The sooner the use of county association labels becomes universal, and bee-keepers wake up to the necessity for protecting their most vital interests, the sooner will the £10,000 per month find its way into British pockets; £10,000 per month (the import for June, I know, is high, but importations are more likely to increase than diminish) means £120,000 per annum, and something should be done to keep this money at home in these days of "agricultural depression."

Surrey B.K.A.—Another season practically gone, and the Surrey B.K. Association still slumbering. Will no one come to the front as hon. sec.? Hundreds of others beside myself are badly wanting a county label to put on our honey for exhibition at the Surrey Bee-keepers' Annual Show, *when the show takes place*. Like Sussex, we are indeed as sheep gone astray. We want a leader with a bell to indicate his whereabouts. Surrey has a County Council, too!—H. W. Brice, *Thornton Heath.*

NON-SWARMING SYSTEM.

[2139.] Having tried Simmins' non-swarming system for two seasons, I have been much interested in reading the letters upon the subject in your valuable paper. My own experience has been that it decidedly prevents swarming, for both this year and last, when working upon the system, I have not had a single swarm from very strong colonies. I have, however, found the same difficulty about lifting the upper storeys off when full of honey, in order to examine the suplus chamber, and as several times I really could not manage it, have been obliged to let the bees alone to build out the frames of comb. But this I do not mind at present, being desirous of experimenting to see if the bees will fill the combs with both brood and honey when left to themselves, in spite of being supered.

Mr. Simmins recommends the "Conqueror" hive for working upon his system, because of the ease with which each compartment can be manipulated without any lifting at all. My hives are only the ordinary ten-framed standard size, piled one on the top of another, and I gather from the letters in your pages the same is the case with the other bee-keepers who have tried the plan. It is, therefore, perhaps not quite fair to blame him if we do not succeed. The two colonies I have worked entirely upon this system are the strongest I ever had, and I have kept bees more than ten years. One has yielded 35 lb. clover honey, whilst the other has only given 14 lb., but has far the most brood of the two, so I should be glad if any one will tell me if the reason is that the queen has had too much room? Both queens are in their second year, and exactly the same management has been carried out for the two colonies.—G. W. W., *Malton, July* 27.

HONEY VINEGAR.

FOR HOME USE AND FOR EXHIBITION.

[2140.] "Strong vinegar with very fine flavour—one part honey; four parts water. Expose to heat of sun in open vessel protected from insects for about six weeks." (I take the foregoing from Mr. Bancks' "Honey and its Uses.") Another recipe says "Rain water, and shake up occasionally." I made mine in a large butter crock, and covered with muslin in the greenhouse. If, instead of one part honey, two parts are used, the result is as good as the raspberry vinegar described by your Kent correspondent for a diluted acid drink. Try it?

As there is just time now for all enterprising bee-keepers—I do not address those to whom it is too much trouble to prepare an exhibit for show—I say all "enterprising" bee-keepers, to get some honey vinegar, both for table use and for beverage, prepared properly in time for the Dairy Show, October 8; and mind it is well cleared—*i.e.*, bright and clear in white glass, and the bottles not too large. There is not a moment to lose. Of course refuse honey will make fair vinegar for the house, but not for competition. The same remark, *re* dairy exhibits, applies also to mead, but we really ought to get honey-vinegar to the front this season at all the late shows. I see there are some liberal public spirited men

at Preston—a Mr. H. W. Johnston donor of £6 for a single honey class of 12 jars, prizes £3 £2, and £1, to be competed for by bee-keepers fifteen miles round Preston. Cannot you get one or two of the same sort to reside in Sussex, Surrey, or Kent? I am glad to see one of your correspondents urging the adoption of the county label on our honey. I sold to a grocer a lot of bottles half labelled—half plain—thinking he might not like the label. He writes me for labels for the plain bottles; proving that a good tradesman appreciates the label. People are asking me where to sell their honey; some of it is very fine, but so many make the mistake of mixing their various lots instead of keeping the different sorts separate. Raspberry honey, in my opinion, is worth 2s. a pound if very choice—it is folly to level all down to one price. I prefer lime honey to any, but all do not like it; it has a grand flavour this season and ought to sell well.—H. Ives, *August* 2.

P.S. Monsieur Bertrand thinks we make our vinegar too strong; the Swiss use about one part honey to eight water—perhaps you can give the Swiss recipe.

BRICKS AND MORTAR AND HONEY GATHERING.

[2141.] Just a few lines by way of endorsing Mr. J. W. Jacomb Hood (2136, page 306), on the effect of bricks and mortar, how it prevents honey gathering. Guildford says ditto to Surbiton, for whereas some twenty years ago (and for many since), I used to get a good supply for the last few years I have had but little; this year, I fear, none at all. I have now taken off all supers, the bees only amusing themselves therein propolising every little open space they can find. I, with some neighbours, attribute this non-finding of nectar to bricks and mortar. I also endorse Mr. Hood's account of the failure of the lime blossoms, and of the acacia also. I have several trees here of both, which I myself planted several years ago. They are now good-sized trees, capable of supplying much nectar, if the weather did not so often cause a disappointment to the bee-keeper.

I do not know where Mr. Hood obtained his knowledge of "a good supply in parts of Surrey" (not Guildford, I think). I hear of some enthusiasts who, I fancy, draw a long bow, who tell you, "they have whole frames filled and sealed." When asked to raise one of them, they are found to be sealed only at the top, and probably some brood just below.—Fredk. H. Lemare, *Guildford*, *August* 3.

MEASURING BEE PASTURAGE.

[2142] This village contains 2,000 acres, but although I propose giving the subject my attention, I am not now prepared to state with any degree of accuracy, how much of this area grows the raw material suitable for the production of honey. Roughly speaking, I should say not more than half, or, say, 1,000 acres. Now I have 30 stocks which probably contain a million bees, and there are ten other stocks in the village, so that, according to my calculations, each bee has an average of two yards square to work on, and this it has to share with numerous other members of the insect world.

And now comes the question: May I not only increase my apiary, but also invite the County Council (which has £2,500 to spend on technical education) to send their expert and demonstrate how the rent may be paid by keeping bees, or shall I, when enquiries are made on the subject, declare that there are quite enough bees already in the village, and discourage any attempt which may be made to increase the number of hives, on the plea that over-production invites famine disease? Whichever side I take I shall be glad to have the authority of the Bee Journal to quote in corroboration of my views. Such calculations as I have made often produce unlooked-for results, and when I saw a labourer setting out to water his land, he was surprised to hear that 25 tons of water are required to keep his "chain" of land up to the mark during a dry month.

During the hot weather my bench was under the trees, where I worked at high measure, making "ekes" for my hives, but now that I have come to the third storey, either the bees have exhausted their four square yards of raw material, or they get an inkling of what is going on, when a crate, containing honey bottles by the gross, arrived on my premises from Liverpool.

Esse apibus partem divinæ mentus et haustus Ætherios dixere.—Edward Lockwood, *Kingham, Oxfordshire.*

HELPFUL HINTS FOR HARD TIMES.

[2143.] May I be allowed to thank "R. A. H. G." for his appreciative notice of *Helpful Hints for Hard Times*, and to add that they can be obtained (1d. each) at the Head Office of the S.P.C.K., Northumberland-avenue, W.C.; at the 300 depôts of that society; and at Smith & Son's Railway Bookstalls. The first edition of 140,000 is nearly exhausted, and I shall be glad to receive any hints or corrections to assist me in preparing the second.—E. Bartrum, D.D., *Wakes Colne Rectory, Essex.*

TUNBRIDGE WELLS SHOW.

[2144.] In reporting the prizes at above show, the winners of the B.B.K.A. medals and certificate were inadvertently omitted. Will you, therefore, kindly insert as follows:—

24 1-*lb. Sections.*—B.B.K.A., Silver Medal; Rev. G. W. Bancks, Dartford.

24 1-*lb. Jars Extracted Honey.*—B.B.K.A., Bronze Medal; F. Swanzy, Sevenoaks.

12 1-*lb. Sections.*—B.B.K.A., Certificate; F. S. Benstead, Sittingbourne.

I do not know what has been the custom hitherto, but undoubtedly cards should be issued by the B.B.K.A., to be displayed on the successful exhibits. It would enhance the value of the prize if the B.B.K.A. were to prepare coloured cards, and send them to all exhibitions at which the medals and certificates are competed for.—E. D. T., *Eynsford August* 5.

BEE HOUSES.

A PORTABLE BEE-HOUSE IN SECTIONS.

[2145.] The interest taken by readers in this subject seems to be very general, judging by the letters I have received asking for further particulars. Some correspondents would be glad to have full details, with measurements and illustrations; but this, of course, means considerable expense in preparing blocks to illustrate the building of such a house as I would recommend. I have, however, in my recollection a house described in the monthly *Record* for 1890 by "H. T. W," which is simple in construction, cheap, and, moreover, possessing many good features. If, therefore, our editors could see their way to reproduce the drawings and reprint the description referred to, it would answer every purpose, and, I feel sure, be appreciated by B.B J. readers. The dimensions and lines laid down could be modified, varied, or may be improved upon, so far as meeting individual taste, or accommodating the structure to different persons' means and wants. I would also advise making provision for ample ventilation and means of lighting; with windows revolving on central pins, so as to be easily "turned inside out," along with any bees which happened to be upon them. In an octagonal house, like the one in view, the hive entrances will naturally point in different directions, and I would add, do not have all entrances at the same elevation. I made this mistake myself at first, but now arrange them at different heights from the ground, especially those of adjoining hives.

Assuming that the illustrated article I have referred to appears, an examination thereof will, I think, serve as a reply to most of the queries about bee-houses sent to my address. And if you would also reprint the illustrations of bee-houses from *Record* of December last, for the information of those requiring either very large and very small houses, I do not think any one will miss much of what they desire to know upon the subject.—H. W. BRICE, *Thornton Heath, Surrey.*

[The article contributed by our correspondent, "H. W. T.," reads as under.—EDS.]

"Will you allow me to suggest a very simple design for a portable bee-house?

The most convenient shape for a small bee-house would, I think, be octagonal. I will therefore describe such, and it will be evident that it can very easily be enlarged or modified. This house would be 5 ft. high at wall-plate (7 to 8 ft. over operator), 8 ft. in diameter, could hold seven large double and storifying bar-framed hives, could be set up or taken down in fifteen minutes, and when removed would consist of only two packages, each about 6 ft. by 3 ft. by 2 ft.

1st.—For the sides construct eight panels (like ledge doors) each 5 ft. by 3 ft. by 1 in., having three battens each 3 ft. by 3 in. by 1 in. (fig. 1.) N.B.—One of these panels should be pierced for a small "wicket" door as shown by dotted lines.

2nd.—For the roof construct eight triangular panels each 6 ft. long, 3 ft. 6 in. wide at base (fig. 2), and 2 in. wide at top.

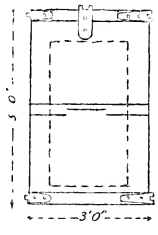

Fig. 1.

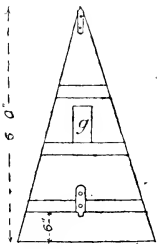

Fig. 2.

3rd.—Next procure twenty-four stout strap-hinges at least 6 in. long, and having strong pins running through their 'eyes.' Knock out this central pin and replace it by an equally strong piece of wire with loop for handle (fig. 3). Also file the edges of corresponding eyes in hinges, so as to let them be connected very easily.

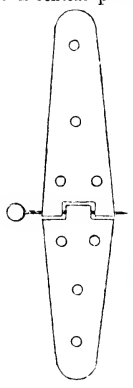

Fig. 3.

4th.—For ridge-piece take a piece of timber about 6 in. square and 12 to 18 in. long. Divide each side of one end into three parts and draw lines across like the dotted lines in illustration, plane off the angles marked X, and you will have an octagonal bar (fig. 4). Drive staples into each side about 6 in. from one end, and finish off the upper end in any pattern that you may desire.

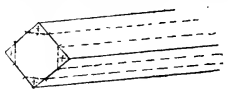

Fig. 4.

Now fasten a half-hinge on each corner of side panels, as shown in elevation (fig. 1), taking care *in every case* to put the half-hinge having two eyes on the right side, and the half-hinge having only one eye on the left side. Fasten

another half-hinge pointing upwards in middle of upper side, as shown. Fasten the corresponding half-hinge to middle of lower batten of roof panel (fig. 2). Also make and fasten on top end of roof panel a similar half-hinge, ending in a hook—instead of an eye—(fig. 5), which is to be hooked into staple driven into the ridge-piece.

Fig. 5.

This completes the house. To erect it, select a level piece of ground about 9 ft. square. Set up a pair of the 5 by 3 ft. panels side by side and run a looped wire through eyes of hinges at top and bottom of corresponding sides. These two sides, if put at any angle (fig. 6) will stand by themselves; add the remaining side-panels one by one, and you will have an irregular octagonal figure (fig. 7). Bring it to about the desired shape,

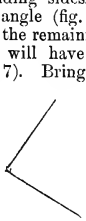

Fig. 6.

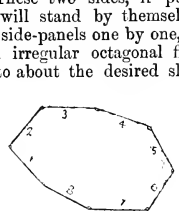

Fig. 7.

and then stand inside it on a box or stool, and let a friend bring you two of the triangular roof panels, and hinge them on opposite side-panels, hooking their upper ends into ridge-piece. When the eight roof panels are fastened into their places you will find that the sides will have been drawn into an exact octagon. It only remains for you to drive a peg into the ground at each of the eight angles inside and the bee-house will stand secure.

(*Conclusion next week.*)

WORKMEN'S EXCURSION.

The workmen employed at Mr. T. B. Blow's, Bee-hive Factory, Welwyn, Herts, had their usual outing on the 29th ult., when advantage was taken of an excursion to Hastings. The Great Northern Railway Company kindly placed a saloon carriage at the disposal of the party and a very enjoyable day was spent.—A. ROBINS (Foreman), *Welwyn, August 2nd.*

BEES AND LEGISLATION.

THE BOARD OF AGRICULTURE, AND THE SUPPRESSION OF FOUL BROOD.

Many of those who keep bees are wondering what will happen to the Bill for the extinction of Foul Brood now that a change of Government has occurred. It will be remembered that, after considerable discussion in the press, and some platform agitation, Mr. Gardner was induced to meet a deputation, and that he promised to pilot the bill through the House. Since then much more evidence has been accumulated. In Scotland and Wales great apprehension is felt, because there it is the custom of carrying bees to the heather just about this season. That many stocks should be placed together is a necessity. The moorlands are very sparsely populated, and it is the custom for one shepherd to take care of all the hives of a district. He charges from a shilling to half-a-crown each for his trouble. We have counted over a thousand hives in a single sheepfold.

An arrangement more favourable for the propagation of an infectious disease could hardly be devised. Many districts that up to now have been perfectly exempt from the pest are in close contiguity to others where it has broken out virulently, and "bee-masters" are thoroughly scared. In very many cases a private arrangement may be come to, and infected bees kept away; but in others the stocks are endangered by careless and ignorant owners. There is no remedy for this season, but bee-keepers may rest content that under the new Government the matter will not be allowed to drop. Representatives of the British Bee-keepers' Association have conferred with the Department of Agriculture, and the subject will be immediately brought under the notice of Mr. Gardner's successor. What is proposed is to bring forward an adoptive Act; but we rather doubt the efficacy of this method. County Councils are not uniform in their ideas.

One very sensible arrangement has been made. In the opinion of experts foul brood may be checked and cured if taken in its earlier stages. The danger is that many owners are neither able to identify the symptoms nor take the right measures for dealing with them. For the purpose of meeting this difficulty a leaflet similar to those issued by the Board of Agriculture is to be drawn up, and distributed through the department. As no one can doubt that such leaflets—as, for example, those dealing with acorn-poisoning in cattle and ensilage—have been of the utmost benefit, it may be anticipated that equal service will be rendered to the beeman. Indeed, the plan might be extended so as include many other of the interests of the small holder.—*Pall Mall Gazette.*

BEE-KEEPING AND RAILWAY SERVANTS.

The porters and other servants on the mountain districts of the Gothard railway, where trains are few and far between, have much spare time on their hands. They occupy their leisure, it seems, with bee-culture, and the directors of the railway have lately encouraged them with small grants and the issue of practical directions for beginners. In the year 1887 there were three stands for bee-hives belonging to railway servants on the northern side of the St. Gothard; in 1888 there were thirty-seven, in 1889 there were sixty

three. Since that time they have increased so fast that there were 257 in 1894. The quantity of honey obtained by the railway bee-keepers last year amounted to 3,500 lbs., nearly all of it being taken upon the northern side of the St. Gothard.

WEATHER REPORT.

WESTBOURNE, JULY, 1895.

Rainfall, 4·78 in.	Sunless Days, 3.
Heaviest fall, 1·39 in. on 18th.	Below average, 3·5 hours.
Rain fell on 16 days.	Mn. Maximum, 66°.
Above average, 1·67 in.	Mn. Minimum, 51·8°.
Max. Temperature, 73° on 10th.	Mean Temperature, 58·9°.
Min. Temperature, 45° on 7th.	Maximum Barometer, 30·30° on 6th.
Sunshine, 194·2 hours.	Minimum Barometer, 29·43° on 21st.
Brightest Day, 8th, 14 hours.	

L. B. BIRKETT.

Queries and Replies.

[1334.] *Setting On and Taking Off Sections.*—When placing a section-rack on a hive I blow a little smoke under quilt. Lift quilt and give more smoke on top of frames to drive down bees and then place the rack in position, but I find after removing sections there are always several crushed bees adhering to bottom walls of rack and cross-bars for supporting sections. Again, when placing a second rack under a partially filled one, the "bee-crushing" is still greater. I ease-up the partially filled rack, then lift it off; insert the second one below and set the half-filled one in position above. I use no smoke in this latter operation because I destroy as many bees with or without using smoke, for while I am driving the bees in body-box below the frame tops, to avoid crushing them in giving the rack of empty sections, those in full one are running all over the bottom of rack, so I put on the top one and trust to good fortune as to how many bees will be crushed. This is, to my mind, a most inhuman way to go to work, and I shall be obliged to be informed—1. How to place section-racks on hives that no bees (if possible) may be crushed? 2. On going to work with "Porter Bee-escapes," as described in "Useful Hints" (July 25, 1895, p. 291), the same difficulty presents itself to me. I use a flat board (with a liner all round it to keep it off sections) fitted with zinc cones, and I remove the section-rack from hive and place it on a board, but in doing this I also crush very many bees. 3. How can I avoid this? I know no one within five miles of my residence who keeps bees, yet I see in B.B.J. a bee-keeper writes under the *nom de plume*, "Novice, Gosport." If it is not against your rules I shall be greatly obliged if you could give me "Novice's" address that I may have a yarn with him concerning bees. I find it a very great drawback having no one handy with whom to compare notes.—GAFFER, *Gosport, July 28th.*

REPLY.—1. The truism as to a pound of practice being worth a ton of theory is especially applicable to bee-operations, and makes us wish our correspondent was within reach of an experienced bee-keeper who could, in a few moments, demonstrate how simple a thing it is for a bee-man to avoid "bee-crushing" when removing surplus honey. However, since the trouble is to be met in some cases, we advise "Gaffer" to try using two carbolised cloths in lieu of smoke, or rather as an adjunct to that useful bee-subjugator. After preparing these cloths in the usual way, enlist the help of an assistant till confidence is gained, and go to work as follows:—Spread out one cloth over a board same size as section-rack, previously prepared, with a raised rim of wood, ½ in. square, on all sides. After easing-up the rack sufficiently high to allow of a puff of smoke being blown in at the junction on all sides, lift the rack off; the assistant then instantly lays on the spread out carbolised cloth, while the full rack is set on the "board" previously covered by the second cloth. You then remove the first cloth from the top of frames and, before a bee rises or shows itself put on the rack of empty sections; shake off adhering bees from the cloth and lay the latter on top of the sections. The assistant then grasps the overhanging corners of cloth, on which the partly-filled sections have been stood—to prevent its sticking to bottom of rack, while you lift the latter, and on the assistant removing the cloth, set it above the empty one and the job is done! If a single bee is crushed or injured during the operation the "job" is badly done. 2. When our correspondent, in writing of the "Porter Bee-escape" observes that "the same difficulty presents itself," we are constrained to say he sadly needs "showing how" to deal with bees, because in a properly-made "clearer" there is bee-space both on its upper and under sides and—except for the outer edges—we cannot see how bee-crushing can possibly occur. Besides, whatever "board" a section-rack (full of bees) is set on, there should be a raised rim to protect the bees from "crushing." Finally, "a flat board fitted with zinc cones," is an entirely different affair to a super-clearer fitted with a Porter Bee-escape.

[1335.] *Dividing Colonies and Dealing with Queen-cells.* — I commenced the year with one hive, which I divided at the end of April because I found queen-cells formed. I put all brood-combs (except that on which the queen was) in a new hive, cutting away all queen-cells but one. The new hive (which I call No. 2) has gone on quite right. The original or parent hive (No. 1)—in which was placed the frame with the queen—alongside full

frames of foundation, was left on the old stand. As I did not want any more increase I thought all would be right, but, alas, No. 1 swarmed on July 13. I put the bees back again. Next morning I examined the combs—which were full of brood—and, not knowing the age of queen, I removed her, besides cutting away all queen-cells but one. On July 24, No. 1 swarmed again in two clusters, and while the first cluster was being hived, the other portion of the bees went back. The combs were then examined and swarm returned. I found twenty queen-cells had been formed after July 14; from old cell I left in the queen had hatched out all right. On July 26 the swarm again came out, clustered, and finally returned to parent hive. I, therefore, ask :—1. Is it usual for bees to start making queen-cells when they have a good one left? 2. If I had put the old queen in the new hive and on the new stand, would it have altered matters? 3. Are the bees—of which I forward a sample—Carniolans, or what?—A BAD BEGINNER, *Burton-on-Trent*, *August* 1.

REPLY.—1. It is very unusual. 2. To have done this would have been to court failure, seeing that the one comb of bees with queen could not possibly have constituted an artificial swarm on removal to a new stand, as no flying bees would have been secured. 3. Bees are hybrid carniolans.

[1336.] *Super Foundation in Brood-nest.*—1. If half-sheets of super foundation, unwired, were given by mistake to brood-nest of swarm, would any serious breakdown be likely to occur? 2. Could I drive an early June swarm (now in skep) first into a box, and then join bees to parent frame-hive, say about the end of September, so as to get the honey? The parent hive is fairly strong already, but, in consequence of swarming three times, there is no surplus; and I want a little honey, but do not wish to destroy the bees. Of course, I should pick out the skep queen if I could find her, but, in case I could not, probably the two queens would fight it out, as they would be unlikely to swarm at the end of September.—AMATEUR, *Manchester*, *August* 1.

REPLY.—1. We should be very much surprised if the result was not a break-down. 2. If the bees are considered as of no value, they may be driven as suggested; but we would prefer cutting out the two outer combs for honey and leaving the rest for the bees to winter on.

Bee Shows to Come.

August 7, 8, and 9.—Yorkshire Agricultural Society at Halifax. Entries closed.

August 14 and 15.—Kent B.K.A., in connection with the Shepherdswe'l Horticultural Show. Entries close August 8. J. Garratt, hon. sec., Meopham, Kent.

August 15.—Goole and District Agricultural Society. Annual show at Goole. Five open classes for bees and honey. Entries close August 8. J. Luddington and H. S. White, secretaries.

August 15.—Berks B.K.A. (Windsor district) Show, at Maidenhead, in connection with the Maidenhead Horticultural Society. Fourteen classes, with good prizes, for bees, hives, and honey. For schedules apply to the Hon. Sec., W. S. Darby, Consort Villas, Clewer.

August 21. — Wotton-under-Edge and District Bee-Keepers' Association. In the Town Hall, Wotton-under-Edge. Eight classes for honey. Entries close August 14. Schedules from the hon. sec., E. W. Read, Wotton-under-Edge.

August 21 and 22.—Shropshire B.K.A. annual exhibition of honey, hives, and bee-appliances in connection with the Shropshire Horticultural Society's great fête in "The Quarry," Shrewsbury. *Upwards of £35 in prizes.* Entries closed.

August 21.—Wilts B.K.A., in connection with the Swindon Horticultural Fête in the Public Gardens, Old Swindon. Nineteen classes for honey (seven open classes) but no appliances. Entries close August 14. Schedules from hon. sec., Rev. W. E. Burkitt, Buttermere Rectory, Hungerford.

August 22.—Show of bees, hives, and honey, in connection with the Horsham Horticultural Society's show at Springfield, Horsham. Entries close August 17. Lectures in Bee-tent by the Rev. C. Brereton. R. Gilburd, Sec., 39, Carfax, Horsham.

August 28.—Lancs. and Cheshire B.K.A. at Fleetwood, Lancs. In connection with the Horticultural Society. Show of honey. Open to Lancashire and Cheshire only. Sec., J. F. Williamson, 18, Bold-street, Fleetwood. Entries close August 14.

August 31.—Manchester and District B.K.A. at Worsley; in connection with Worsley Horticultural and Agricultural Show. Six classes for bees, hives, and honey. Liberal prizes. Entries close August 20. Schedules from Mr. Upjohn, Worsley, Manchester.

September 5. — North Norfolk B.K.A. annual show in connection with the Holt Flower Show, to be held in the grounds of Brinton Hall. Two special open classes for single 1 lb. sections and 1 lb. jars of extracted honey. Entries close August 24. Schedules from the Hon. Sec., C. J. Cooke, Edgefield, Melton Constable, Norfolk.

September 3 and 4, South of Scotland B.K.A.—Annual Honey Show in connection with the S. of S. Horticultural Society's show at Dumfries, nineteen classes for honey. Over fifty prizes. Entries close August 30. John Currie, Secretary, 7, Assembly-street, Dumfries.

September 4.—Herefordshire B.K.A. annual show and honey fair, at Hereford. Eight

classes for honey. Entries close August 30. Hon. Sec., Alfred Watkins, Imperial Mills, Hereford. Consignments of honey for sale solicited.

September 7.—Lancashire and Cheshire B.K.A., in connection with Bramhall and Woodford Horticultural Society. Annual show of bees and honey at Bramhall Hall. Open to district only. Schedules from Secretary, J. Bell, Davenport, Stockport.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

September 28. — Roxburghshire B.K.A. Annual Show in the Corn Exchange, Jedburgh. Numerous prizes. Entries close September 24. Thos. Clark, Secretary. Pleasants, Jedburgh.

October 8, 9, 10, and 11.—Dairy show at the Agricultural Hall, London. Liberal prizes in five classes for honey. Open to all. Entries close September 9. For schedules apply Wm. C. Young, sec. Dairy Farmers' Association, 12, Hanover-square, London.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

SIDNEY OAKLEY (Dover).—*A Bad Start in Bee-Keeping.*—Our correspondent has made an unfortunate start. If, however, among the "lot of bee literature" lately studied by him, the "Guide Book" was included, the chapter on "How to Commence Bee-Keeping" (page 136) should have had an especial interest for a beginner, and a perusal thereof would probably have been a caution against buying "very weak" stocks in straw skeps, apparently without even knowing whether the bees were healthy or not. When starting bee-keeping in frame-hives it is always best to furnish the hive with a good swarm (a natural one, if possible), and get it early in the year. Otherwise, or where established stocks—whether in frame-hives or in skeps—are bought, the help of a competent person should be enlisted for judging of their condition, unless implicit confidence is placed in the seller. It would be folly to burn the skeps because they have not swarmed or yielded any honey this year, before having a reliable opinion as to their condition. Unless the help of a friendly bee-keeper could be enlisted our advice is to join the Kent B.K.A., and get the expert to report on the skeps when on his autumn tour among members. The hon. sec. (J. Garratt, Esq., Meopham) would furnish all information if applied to.

BEGINNER (Hinckley).—*Unfinished Sections.*—1. If the outer sections are not taken to while inner ones are filled, it denotes some fault in not packing properly for warmth. 2. It is better when outer cells are well filled close to the wood, but it is only in good seasons that very perfect sections can be had. 3. Use a narrow edging of lace-paper to hold the glass in position and give a finish to the appearance of the section. They should be sent to the show in a proper crate made for the purpose by appliance dealers.

T. H. D. (Elland).—*Bees Casting Out Brood.*—The symptoms noticed are not unusual at this season, and indicate the stoppage of natural income. Food should on no account, however, be offered to bees "in a dish placed by the hive," nor should additional room have been given under the circumstances. In fact, "T. H. D." seems to sadly need a bee-book of some kind for his general guidance, and when the useful handbook, "Modern Bee-keeping," can be had post free for 7d., he should certainly invest that sum, both for the sake of his bees and himself.

H. M. TURNER (Oxford).—"*Wells*" *Hives for Winter.* — Each compartment should have as many frames as the bees will cover well.

W. C. THOMAS (Falmouth).—*Foul Brood.*—The question you put is entirely one of opinion, and for ours refer to B.J. of June 6, page 221.

GEO. HEAD (Windsor).—*Honey for Exhibition.*—Honey sent is certainly good enough for showing, but whether it would win or not depends, of course, upon the quality of the competing exhibits. In any case, however, greater care will be needed in *straining* your honey. All the samples sent are spoiled for showing by having more or less small particles of wax in them. Straining through fine muslin would, however, remove this fault. Of the samples we like No. 1 best. All are good in colour, Nos. 1 and 2 best in flavour, but the latter is the weak point in all four specimens, none being first rate in flavour. No. 1 is good, the others medium, on this point.

THOS. GOOCH (Sydenham).—*Varieties of Bees.*—The queen of No. 1 is a hybrid ligurian, but, if the accompanying bees are her progeny, she has mated with an ordinary or black drone. No. 2. Hybrid ligurian. No. 3. Ordinary brown bees.

T. G. G.—Sample received is a good specimen of honey, mainly from white clover. It is rapidly granulating however, and if intended for showing would require gently warming in warm water till it cleared.

R. AULD (Combe Grange)—Honey sent is chiefly from limes. It is too thin to be classed as good honey, though free from honey dew.

BEESWING (Wetheral). — *Renewing Combs.*—The best time to renew combs by giving sheets of foundation is during settled weather in the month of April, when bees

are breeding freely. If the foundation is well fixed in the frames, and the hive set level, there is no actual need for "wiring" the foundation, though it is safer to do so. Give one sheet at a time, at intervals of five days, in centre of brood-nest by parting the combs after removing an outside frame (broodless, of course). Do not operate with hives having less than five or six frames well covered with bees.

H. S. W. (Cambs).—The bulk of dead brood in comb sent, by its appearance, strongly bears out your idea that "overdosing" has had something to do with the mischief. There is, however, a slight trace of foul brood, which necessitates the medicating of all food given. But be careful about overdosing in the way stated in future.

The Holms.—Comb is badly affected with foul brood, and, as you report the stock "very weak," the best course by far is to burn the lot.

W. SUMMERS (Pershore.) *Removing Bees from Frame-hive.*—The bees may be removed by shaking them off the combs on to a board and allowing them to run into a skep raised in front for entrance. You cannot well "drive" them from the frames, besides shaking off is much easier. We are curious to know why you "wish to destroy the bees as they are rather savage"? Why not requeen them?

We are again compelled to hold over several letters till next week for want of space.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

OBSERVATORY HIVE, mahogany; unused. Cost £3. 15s. EXCHANGE for Bees, or offers. MALLOCH, Bentham, Yorks. H 94

PURE ITALIAN QUEENS, from LUCIA PAGLIA, Royal Bee Establishment, 5s. each. Cash with order. J. GREENHILL, 80, Graham-road, Wimbledon.

"HONEY AND ITS USES." By Rev. Gerard W. Bancks, M.A. 3s. 6d. per 100. Specimen copy sent. Address, The Green, Dartford. H 80

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BREERETON, Pulborough, Sussex. 109

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

LACE PAPER for GLAZING SECTIONS. 100 strips, 22 inches long, 8d., 200, 1s. 3d., 300, 1s. 9d., 400, 2s. 3d., 500, 2s. 9d. Three neat patterns stocked. W. WOODLEY, Beedon, Newbury.

THREE "WELLS" HIVES, well stocked with Ligurian Bees and '95 Queen, plenty of stores for winter, £2. 2s.; with 4 Crates, 21 1-lb. Sections, £2. 10s. Three-Frame Nuclei, Ligurians, 5s. 6d. Hybrids for Sale. J. PARGETER, Cropredy, Leamington. H 93

DRIVEN BEES, guaranteed perfectly healthy, 1s. per lb., Queen included. In ordering, mention railway station. Money promptly returned where orders cannot be supplied. A few spare Queens at 2s. 6d. each. OWEN BROWNING, King Somborne, Stockbridge, Hants. H 92

FINE TESTED 1895 FERTILE QUEENS, 3s. 6d. each. Safe arrival. 3-Frame Nuclei, including Queen, 10s. 6d. Bees 1s. 6d. lb. for 5 lb. lots or over, queen included. Guaranteed healthy. Boxes to be returned. C. WHITING, Valley Apiary, Hundon, Clare, Suffolk. Porterage telegrams, 1s. 6d. H 79

Prepaid Advertisements (*Continued*)

BEG to thank my Customers who have done business with me for so many years, and to ask them to forward their orders. I have some splendid Clover Honey (fit for any table), pale colour, and good aroma, 7d. per lb. in 60lb. tins. T. HOLLIDAY, The Apiary, Astbury, Congleton. 153

1895 HYBRID QUEENS.—Special Ligurian Hybrids—Queens, tested, 5s. 6d. each; Virgin Queens, 3s. each. All Queens sent in my new Introducing Cages, post free. Safe arrival guaranteed. Orders executed in rotation. H. W. BRICE, Beulah-road N., Thornton Heath, Surrey.

YE OLDE ENGLISHE BEE.

Fine selected Fertile Queens, 3s. 6d. each; finest tested English Queens, 5s. each. Sent in my Introducing Cage, guaranteeing safe arrival. Parcel Postage 3d. W. WOODLEY, Beedon, Newbury.

BLAKEY'S BEE FEEDER.

Made of wood, zinc, and glass. Holds one pint of syrup, and can be filled without removing from hive, and bees may be observed as they take the food without escaping. Price 6d. each. Postage of one costs 4½d., two 6d., four 9d., six 1s. 1d. J. M. BALMBRA, 2, East-parade, Alnwick, Northumberland.

TO BEE-KEEPERS AND SECRETARIES OF COUNTY ASSOCIATIONS.

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Editorial, Notices, &c.

USEFUL HINTS.

(Continued from page 311).

THE CLOSING SEASON. — We are now getting within sight of the close of the bee-season of 1895, and those who would be wise in time will do well to at once set about some needful work by way of preparing their bees for the quiet time now near at hand. It may be regarded as a truism that—in bee-work—preparation for the coming year begins in the autumn of the preceding one. This is always true, because no amount of after-care in nursing stocks of bees—begun only when the warmth of April is making itself felt—can possibly result in a manner entirely satisfactory to the bee-keeper. In preparing for a successful season in '96, the start should be made in the autumn of '95, and—to come to details—the most important point towards achieving success is to have every colony in the apiary headed by a good queen. We ask, what is the good of caring carefully for, and incurring expense and trouble in "seeing to" a stock of bees, the very existence of which is fading out of sight by reason of its being headed by an aged and worn-out queen? Hence the absolute need for making the "mother-bee" a first consideration. Well knowing the value of this point, experienced bee-keepers appreciate it accordingly. Next in importance comes feeding-up in good time, wherever stores are short. No urging should be required on this point. The need for ridding of its superflous moisture all syrup-food given to bees, and of getting it sealed over while the weather is warm, is so obvious that no one can afford to overlook it. Where a good supply is needed the food should be given at the rate of about one quart of syrup per week,—and the "feeder" should be so arranged that it occupies the bees seven days in taking it down. During the third week in September an inspection of the combs is made, and if any additional food is required it must be given in "one dose" with a "rapid feeder." Subsequent proceedings include a full examination of combs to see that no suspicious sealed-cells are scattered over them, also that there is no superfluous drone-comb, or faulty combs in any of the frames. If such are seen they must be marked for removal when the final "winter packing" takes place later on. In our next "Hints" we shall continue this subject.

AN APPEAL

ON BEHALF OF THE WIDOW AND FAMILY OF THE LATE THOS. BADCOCK.

In response to the generous offer made on page 311 of our last issue, the names of five intending donors of 10s. each have been forwarded to us; so that five more contributions of 10s. will secure an additional five pounds to the above fund.

LEICESTERSHIRE B.K.A.

SHOWS AT VICTORIA AND ABBEY PARKS.

The annual show of this association was held in connection with the Leicestershire Agricultural Society, at the Victoria Park, Leicester, on July 31 and August 1. It is a gratifying sign to note the increasing interest taken in this section of the show. The entries were the largest yet known, numbering eighty-seven. The quality also was very fine, there being an evenness in the whole of the exhibits which made the competition very keen. The artistically arranged collections of honey were very effective, and, together with an interesting display of appliances, made up an exhibition that it would be difficult to equal, and exceedingly hard to surpass. Mr. J. H. Howard, of Peterborough, gave very instructive lectures on bee-keeping on each day in the manipulating tent, and also officiated as judge. The following were his awards :—

Observatory Hive.—1st, J. Cooper, Leicester; 2nd, J. Waterfield, Kibworth.

Twenty-four 1-lb. Sections.—1st, J. Waterfield.

Three Shallow Frames of Honey.—1st, J. P. Falkner, Market Harboro; 2nd, J. Waterfield; 3rd, Dr. Fulshaw, Earl Shilton.

Twenty-four 1-lb. Jars Extracted Honey.—1st, Miss Chester; 2nd, A. Parry; 3rd, Mrs. Parry.

Twelve 1-lb. Sections.—1st, J. Waterfield; 2nd, Mrs. Green, Mowsley Rectory; 3rd, J. Fewkes, Glenn Magna.

Twelve 1-lb. Jars Extracted Honey.—1st, Miss Chester; 2nd, J. Waterfield; 3rd, Mrs. Parry.

Display of Honey in any form.—1st, J. Waterfield; 2nd, J. Cooper; 3rd, Miss Chester; extra prize, Miss Throsby.

The above association also held an exhibition of honey, in connection with the Leicester Horticultural Society, at the Abbey Park, Leicester, on August 6, and although inclement weather prevailed, this department proved, as usual, a great source of attraction to visitors. Interesting lectures on bee-keeping were given at intervals by Mr. A. G. Pugh, of Notting-

ham, assisted by the secretary of the L.B.K.A., Mr. J. Waterfield. A word of praise is due to the exhibitors of "collections of honey," for the very tasteful way in which they were staged. Mr. Pugh acted as judge, and made the following awards :—

Twelve 1-lb. Jars Extracted Honey.—1st, J. Waterfield; 2nd, G. B. Cooper; 3rd, Mrs. Parry; 4th, W. P. Meadows.

Twelve 1-lb. Sections.—1st, J. Waterfield; 2nd, W. P. Meadows.

Collection of Honey.—1st, J. Waterfield and W. P. Meadows (equal); 3rd, J. Cooper.

Twelve 1-lb. Jars Granulated Honey.—1st, W. Parkinson, Groby; 2nd, W. P. Meadows. —*Communicated.*

GLAMORGAN B.K. ASSOCIATION.

SHOW AT BARRY.

The annual exhibition of the above association was held in connection with that of the Glamorgan Agricultural Society on July 24 and 25. The honey classes were exceedingly good for the season, and the special interest taken in the honey department was very marked, no doubt owing to the large number of bee-keepers in the county of Glamorgan. The following awards were made :—

Six 1-lb. Sections (Open).—1st, A. Hamer, Llanarthney Station; 2nd, Mrs. Powell, Gilston Manor, Cowbridge.

Six 1-lb. Jars Extracted Honey.—1st, W. Parry, Bridgend; 2nd, M. A. Thomas, Cowbridge.

Six 1 or 2-lb. Sections (Local).—1st, General H. H. Lee, Dinas Powis; 2nd, Thos. Matthews, Dinas Powis.

Six 1-lb. Jars Extracted Honey. — 1st, General H. H. Lee; 2nd, Thos. Matthews.

Frame of New Honey.—1st, Thos. Matthews; 2nd, James Mote, Cadoxton.

Beeswax.—1st, General H. H. Lee; 2nd, Thos. Williams.

Twelve 1-lb. Sections.—1st, E. Thornton, Bridgend; 2nd, R. Thomas, Cowbridge.

Twelve 1-lb. Jars Extracted Honey.—1st, T. Gregory, Bridgend; 2nd, Thos. Matthews.

Twelve 1-lb. Sections.—1st, R. Oakley, Cowbridge.

Twelve Jars Extracted Honey.—1st, J. Gardener; 2nd, E. Thornton.

Single 1-lb. Section.—1st, E. Thornton.—(*Communicated.*)

STAFFORDSHIRE BEE-KEEPERS' ASSOCIATION.

The annual exhibition was held in connection with the show of the Staffordshire Agricultural Society at West Bromwich on August 6 and 7.

The provision made by the society for the display of the exhibits in the bee department was excellent, and in contrast to the limited accommodation at the Jubilee Show at Stone last year, where, it will be remembered, additional space had to be improvised at the last moment. The total quantity of honey staged was upwards of 1,500 lb. The most conspicuous and attractive feature on entering was the collections of "honey in any form," which were tastefully arranged on a long table. Mr. Williams, of Lichfield, was again to the fore with a fine display of light and uniformly-coloured honey, and took the Bee-keepers' Association gold medal. The second prize exhibit of Mr. Elihu Clowes was little inferior. All except one of the six exhibits staged in this class had their merits recognised by the judges.

Taking the exhibits as a whole, they were most creditable, and with a large entry in nearly all the honey classes an exceedingly good show resulted.

Mr. Cock, the expert of the Association, gave lectures and practical demonstrations in the bee tent during the show. Mr. H. Twentyman, the hon. secretary, Mr. E. E. Crisp, and several members of the committee rendered important aid in arranging the exhibits.

On Wednesday Mr. Palmer conducted an examination of five candidates for experts' certificates.

The judges—Mr. John Palmer, Ludlow, Salop, Mr. E. T. Jones, Etwall, Derby—made the following awards :—

Exhibit of Honey not over 150 lb.—1st, Wm. Williams, Lichfield; 2nd, Elihu Clowes, Blackbrook; 3rd, A. W. Rollins, Stourbridge; 4th, T. Simpson, Lichfield; 5th, T. Greensill, Queslett, Birmingham.

Twelve 1-lb. Sections.—1st, Mrs. G. R. Dyott, Lichfield; 2nd, Thos. Simpson; 3rd, J. W. Hughes, Lightwood Chase, Longton; 4th, Elihu Clowes.

Twelve 1-lb. Jars Extracted Honey.—1st, E. E. Crisp, Stafford; 2nd, Miss F. E. Smith, Lichfield; 3rd, J. H. Collier, Stafford; 4th, Elihu Clowes; v.h.c., W. Williams, Miss E. A. Cooper, Aldridge, Mrs. Fausset, Tamworth; h.c., Miss A. M. Lloyd, Lichfield, E. W. Jackson, Milton, T. J. Horseley, Wolverhampton.

Six 1-lb. Sections.—1st, T. Simpson; 2nd, F. E. Smith; 3rd, Harold Twentyman, Wolverhampton; v.h.c., Mrs. G. R. Dyott.

1-lb. Section and 1-lb. Jar of Extracted Honey.—1st, Miss F. E. Smith; 2nd, Harold Twentyman; 3rd, E. Clowes; 4th, T. J. Horsley.

Non-Sectional Super.—1st, A. W. Rollins.

Twelve 1-lb. Jars Granulated Honey.—1st, H. Wood, Lichfield; 2nd, E. W. Jackson; 3rd, T. Simpson; v.h.c., E. Clowes; h.c., J. H. Collier.

Twelve 1-lb. Jars Extracted Honey.—1st, John Wallis, Keefe; 2nd, P. Blair, Trentham Gardens; 3rd, T. J. Horsley; h.c., W. Williams.

Twelve 1-lb. Jars Extracted Honey in Blow's Screw-cap Bottles.—E. E. Crisp.

OPEN CLASSES.

Twelve 1-*lb. Sections.*—1st, S. Cartwright, Shawbury, Shrewsbury; 2nd, T. Simpson; 3rd, Mrs. S. Richards, Wolverhampton; v.h.c., J. Grove, Birmingham.

Twelve 1-*lb. Jars Extracted Honey.*—1st, S. Cartwright; 2nd, Miss F. E. Smith; 3rd, Mrs. G. Dyott; v.h.c., Rev. E. Charley, Ince Vicarage, Chester; h.c., J. H. Collier, and George Woodward, Rugeley.

Collection of Hives and Appliances.—1st, T. Walmsley, jun.; 2nd, Messrs. Thomson, Birmingham.

Best Hive.—1st, T. Walmsley, jun.; v.h.c., W. H. Bayliss, Stafford; h.c., T. Greensill.

Beeswax.—1st, T. Simpson; 2nd, E. Clowes; 3rd, H. Wood; v.h.c., J. Beach, Burntwood.

Observatory Hive.—1st, A. W. Rollins; 2nd, Elihu Clowes; 3rd, Robert Cock, Stafford.

LABOURERS' CLASSES.

Twelve 1-*lb. Sections.*—1st, R. Middleton, Stafford.

Twelve 1-*lb. Jars Extracted Honey.*—1st, C. Shearman, Lichfield; 2nd, R. Middleton; 3rd, W. T. Collier, Haughton.

1-*lb. Section and* 1-*lb. Jar Extracted Honey.*—1st, R. Middleton.—(*Communicated.*)

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

NOTES BY THE WAY.

[2146.] We are having a spell of wet, unsettled weather, which is trying to the farmer and also interferes with the bee-keeper's hopes of a harvest of heather-honey. I hear the "ling" is in full bloom away on the hills, but fear the weight of hives located there are not augmenting.

We have here a good sprinkling of clover-bloom, and during sunshine the bees take advantage of the little breaks and work on it like—well, like *bees!*

Choosing a Bee-Location.—One or two correspondents have lately asked my opinion as to certain districts being "good for bee-keeping." Now, I will state a few of the difficulties in the way of answering straight off or with advantage to querists. One ought to know (1) the system of farming pursued in the neighbourhood with about the proportion of arable to pasture land. (2) If wild mustard grows spontaneously along with the various crops, and (3) if there is any heather or down-land adjoining? Salient points like these must be known to any advisor desiring to give practical help to his questioner. Speaking generally, however, and for myself only, of course, I may say that first, in planting an apiary I would not seek a solely fruit-growing district. Fruit trees bloom too early in the Spring to be of much service in securing a crop of honey in our fickle springtime, and stocks cannot be readily brought up to the "boiling over" point by the time of fruit bloom. I have in my mind a fairly large apiary in a fruit district in which the balance is on the wrong side. If there are orchards with adjoining fields of white clover, sainfoin, wild mustard, vetches, beans, &c. also lime trees, here I would establish my apiary on the sunny side of a wood if possible in which were grown a goodly number of withies, (usually called "palm"). Bees will work profitably on flowers—if in quantities—within a radius of two miles. But has anyone thought of the large area of forage-ground included in a two-miles radius? Why, two miles to all the points of the compass gives about 12½ square miles of bee-forage. This fact will account for bees storing so large a quantity of honey at times in a good district.

I have been asked to give my method of using the "super-clearer." Our Editors, in reply to "Gaffer" (on p. 317), fairly cover the ground, but as I have no "assistant" and do not require one I proceed as follows:—Provide a "carbolised cloth" by dipping a piece of calico in carbolic solution prepared in the usual way; wring it out well; take a stool, a box or a light crate—this is your *porter all through the season*—place the rack of sections on your "porter," remove all coverings except the last piece of carpet; and, after shaking out carbolised cloth, take the two front corners of carpet between your thumbs and fore-fingers, while holding the carbolised cloth between the first and second fingers; then, as you peel off carpet, the carbolised cloth takes its place, and the obnoxious effluvia causes the bees to rush down between the combs; lift off the cloth and you can place the super on without killing a bee. When adding a second rack under the first one, place the former on your "porter," then give the rack of sections on the hive a slight twist—to break attachments to frames—shake out your cloth ready and drop its folds down in a heap (so to speak) between the front of hive and rack of sections; now raise the rack, and, while adroitly swinging it back, allow the cloth to fall on top of frames; then gently lower the rack of sections on to the top of spread out cloth above frames, keeping it in your hands; the smell of the carbolic will drive

the bees in super up into the sections; place it on top of the empty rack on your "porter." Take hold of carbolic cloth by the the middle, raise it a little, and then let it fall once or twice, to drive the bees down out of your way; remove it quickly, and place the two supers over the brood again without crushing a bee (I sometimes use two cloths, but I never lay a cloth on the super clearer). When removing racks of finished sections stand your "porter" at a convenient distance with super clearer on it ready to receive the honey; a little twist—as before—will loosen top crate from bottom one; grasp it both sides, also the two corners of carbolised cloth, and, as the rack travels in your hands towards the clearer, the cloth covers the crate on hive; the full one is placed on "clearer," the cloth is pulled off, the clearer and rack being placed on the lower rack and the hive cover replaced. After the bees are out and the honey removed, the "clearer" is removed, the top of sections still on the hive being covered for a moment with the carbolised cloth. On removing this, replace the quilts before bees come up.—W. WOODLEY, *Beedon, Newbury.*

[In view of our correspondent's description of his method of using super-clearers being regarded in the light of a comparison with—or suggested improvement on—the plan followed when removing surplus honey by the writer of "reply" quoted, it may be well to remind readers that the directions given to "Gaffer" were intended to meet the special troubles detailed in query 1334, and not in any way as a description of an experienced bee-keeper's method of using a super-clearer; or—as seems to be inferred—of the plan personally followed by the Editor who wrote the reply on p. 317. —EDS.]

OUR FOREIGN CORRESPONDENCE.

BEE-KEEPING IN SPAIN.

[2147.] Seeing the gentleman from Kent (2126, p. 295) is delighted with foreign correspondence, I concluded to add my mite and drop you a line on bee-keeping in Spain.

Within a few years, modern bee-keeping has made great strides on the Peninsula and in our Balearic group. We have now in Spain three apicultural journals published, one in Barcelona by Senor Bellock, translator of your *Guide Book*; another in Badajoz by Senor Martin; and a third in Minorca by your humble servant. Two of us use the "Cowan hive" and English fittings; the third in Barcelona is partial to the French one-story hive of De Layens.

Our season here in Minorca has been just splendid. We possess three apiaries, two in the interior and one at home. There are several others besides. During the *sainfoin*, honeyflow (*Hedysarum coronarium*), in the interior, when the fields are all ablaze with the blooming of this magnificent bee-plant, it is, indeed, a sight worthy of the ancient gods. It is the greatest boon we ever had here. Some farms which would formerly have sold for a few hundred pounds, the land was so poor, and which could hardly manage half-a-dozen cows, are now, owing to this excellent foraging plant, worth their thousands, and now keep twenty or forty head of cattle.

During the bloom of the sainfoin our farmers just let the cattle into some of the overflowering pastures and fatten them after the fashion of fattening hogs in the corn-fields of the west. Large quantities are also cut and sold for hay, and enough is left for food the year round.

The method generally followed here for planting sainfoin is as follows:—When the young seedlings are a few inches high, say in November or December, they are transplanted, some three or four feet apart, among the already growing wheat in the fields. The sainfoin then grows about a foot high. Thus the sainfoin grow but thinly, shut in by the wheat, but after the latter is harvested (by hand, of course,) the plant flowers and produces enough seed for the wants of the coming year.

It sows itself, and the year following the field is a brilliant mass of green and red. In fact it grows so rank that you cannot see the cattle fattening in its shade. It also produces honey of the finest quality in large quantities. Our two apiaries in that region—some eighty hives—have given us this season over a ton of very superior honey, and in all probability we shall extract a few hundred weight more. At the home apiary some of our stocks of hybrid bees have done so well that, after filling three stories and refusing to swarm, they went to work on a 21 section rack we added as a preventive, and filled and capped it in a solid mass. Of course, no precautions were taken to drive the bees into the sections, the object being to keep them from swarming. Only two out of 20 hives swarmed, and as a result I have here but half-a-dozen good swarms for next year's honey-flow. But the bees are at work as for dear life, filling second stories and even "drawing-out foundation."

Your season would seem to have been less abundant than ours. This made me think of sending over a few hundred weight of our honey as a sample. But your "Tight little Island" seems jealous of us "furriners;" even "A. Beille" who so delights in foreign correspondence and contributions, hoping no "contributions" of honey shall be allowed to flood your markets. Sorry for you, as Dr. Miller says, "we be brethren."—Yours fraternally, F. C. ANDREU, *Port Mahon, Spain, August* 2.

MEASURING BEE-PASTURAGE.

[2148.] Referring to Mr. Edward Lockwood's letter in last week's B.J. (2142, p. 314) allow me to say that in our village and a village adjoining, there are over 30 stocks of bees, all within a square mile of ground, or 640

acres, pasture, arable, and fruit. Where the bees have proper attention they gather much honey—from 30 up to 120 lb. per hive. All districts are, of course, not equally favourable for bees, and if your correspondent's pastures are unsuitable for the purpose he ought not to write a cynical letter, casting reflections which our opponents will use to the discouragement of bee-keeping generally. A better distribution of *bee-keepers* all over the kingdom is no doubt desirable. There are in some parts grand bee-pastures without a single bee-keeper; on the other hand, and probably it is the case at Kingham, bees are overdone—unless the ill-success happens to be caused by bad bee-keeping. I fear statistics are often very unreliable as proofs. Lord Beaconsfield is said to have classified untruths in gradations, thus: —"Lies," "D—— lies," and "statistics." I think, too, we are much indebted to Mr. Lockwook for starting a very profitable question, and if he had but rendered his classical quotation into plain English, for the benefit of the less scholarly bee-keepers, he would have conferred a further favour on your numerous readers. I am just off to the vicarage to get it translated.—I. PRIOR, *August* 10.

SURREY BEE-KEEPERS' ASSOCIATION.

[2149.] Your correspondent, Mr. H. W. Brice (2138, p. 313), sends up another wail at the state of slumber into which the Surrey Bee-keepers' Association appears to have fallen, and it is a matter of sincere regret to myself that I can only re-echo that wail. We have just completed a two months' tour in that county with our Bee-Van on behalf of the County Council, and I can safely say that with a strong committee and an energetic honorary secretary, there is no county with which I am acquainted that offers so good a field of labour in this respect as Surrey. In almost every one of the places we visited (upwards of 40) we were met with the question, Where is the Surrey B.K.A.? and our only answer could be that it was practically non-existent. We found ample evidence of good work having been done in the past by our "Grand Old Man," Captain Campbell, but at his great age it is physically impossible to carry on the work, although I feel sure he would do all in his power to help any one with the work, and in this respect his extensive experience would be invaluable. As an honorary secretary of some years experience I can promise any one with the necessary time and energy who will take up the work—and it will be no sinecure—that they will find a rich reward in finding hosts of friends to help them in the work.

I hope later on to have an opportunity of saying something further on the subject, but if in the meantime we can do anything to help forward the revival of the Surrey B.K.A. into its old vigour, I for one will be glad to do so.

Your correspondent (Mr. Brice) also refers to the desirability of the adoption of the County Association label. As the pioneers of this particular branch of County Association work, I may perhaps be allowed to say something, and I venture to assert that in no part of our work has there been such satisfactory results. We find that our agents are awakened to the fact that it pays better to sell genuine British honey, with the endorsement of the County Association upon it, than the spurious foreign article sold as "pure honey," which has too often been found in their shops. With the general adoption of official labels under the guarantee of the County Associations, and with an association for each county there is no reason why this rubbish should not be relegated to its proper place, and pure British honey substituted. Of course, there are some precautions to be taken in the matter, but it is not necessary to refer to them now, as they were fully dealt with in my paper before the British B.K.A. I shall, however, have great pleasure in giving further particulars to any county secretary who wants help in the matter, as we have often been able to do in the past.

Permit me to add that my remarks *re* the Surrey B.K.A. have been written without reference to Captain Campbell, and I feel sure he will understand the spirit in which they are written; knowing so well the valuable work he has done in the county of Surrey, he will, I know, be the first to help any one willing to step in and continue it. I can only repeat Mr. Brice's query, "Where is he?"—A. D. WOODLEY, *Hon. Secretary, Berks B.K.A.*, 17, *Market-place, Reading, August* 10.

THE SEASON IN NORTH WALES.

[2150.] In the Vale of Clwyd, North Wales, we have had an excellent season with the bees, although there is very little heather honey within reach. Our bees do remarkably well just while the honey flow lasts. Foul brood is also unknown in our district, or for miles round; in fact, I don't know anyone who could tell what such a thing was like. I am wondering if it is a common thing for bees to damage fruit? Last year I noticed them attacking the pears, and this year they are very busy on the gooseberries. It is my second year with bees, and I find them very profitable indeed. I have made £3. 7s. 6d., besides giving a good quantity of honey away to my friends. I have also had three swarms, all of which are now in an excellent condition. I bought two Italian queens, and introduced them roughly, one into a skep, the other into a frame-hive, and both have done well. When introducing the queens I used no cage; but simply worked the bees about a good bit, and then united them peacefully, and they have fully stocked both hives. We have no Bee Association in this part, so that

bee-keepers are generally very backward in the craft. It is the usual thing for cottagers around here to commit their bees to the sulphur pit.—THOMAS L. SMITH, *St. Asaph, North Wales.*

BEE-HOUSES.

A PORTABLE BEE-HOUSE IN SECTIONS.

(*Concluded from page* 316.)

To furnish it, cut seven shelves or flaps, each 2 ft. broad, the outer edge being 3 ft. wide, and the inner edge only 16 in. (Fig. 8). Hinge the upper face of each shelf to lower side of central batten in each side, so that when not in use it can fall down flat against side, and cut a slit 6 in. by $\frac{1}{2}$ in. through side of bee-house for a bee-passage. Cut fourteen laths 2 ft. 6 in. by 3 in. by 1 in., and hinge two of them to bottom batten of each side panel, so that they may support the shelf when in use, and when packed may lie flat over same shelf. The details are made clear in Fig. 9.

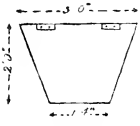


Fig. 8.

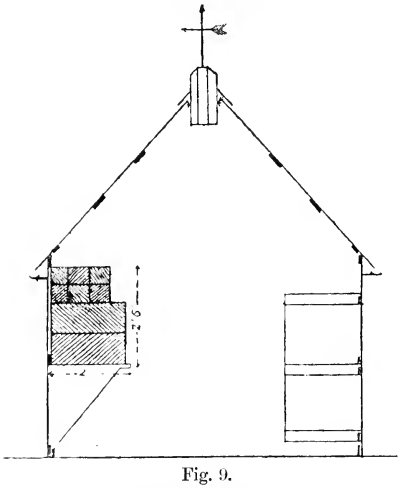
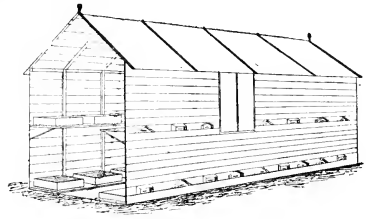


Fig. 9.

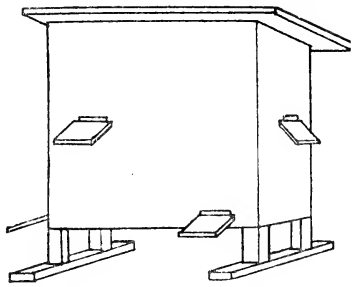
A small alighting-board can be easily secured by screws to outside of house opposite each hive when in use, and as easily removed when desired. In the same way a strip of zinc, 6 ft. long and 6 in. wide, could be tacked over joinings of roof panels, and panes of glass 12 in. long and 3 in. to 6 in. wide inserted in roof for light and ventilation.

When the house is erected it would be well to finish it with a neat eave-spout, and also slightly lower the ground for a few inches all round it to keep out damp.—H. W. BRICE, *Thornton Heath.*

[The other two Bee-Houses referred to by our correspondent on p. 315 are shown below.—EDS.]



BEE-HOUSE FOR THIRTY-TWO HIVES.



BEE-HOUSE FOR FOUR HIVES.

Queries and Replies.

[1337.] *Bees Refusing to Swarm.*—About twelve months ago I received of a friend a present of a colony of bees in a straw skep. It was a swarm of that year (1894). There was some heather in the neighbourhood and the bees pastured it well before going into winter quarters. I put extra covering on to keep them warm and dry, but the winter here was unusually severe, many of the bees died, and they came out in the spring very weak. They continued, however, gradually to increase in numbers, until at last they became really strong. And then, as I was anxious to increase my stock, I subscribed for the JOURNAL and *Record*, ordered several of the best manuals on the subject, procured a frame hive, filled it with five frames of foundation to begin with—flanked with a division board—and put it in place for the reception of the impatiently expected swarm, which, however, up to the present has failed to materialise. I noticed that on the 24th ult. some drones began to make their appearance, and supposed that the bees intended to supersede the queen, and that we might by-and-by have a new queen and perhaps a late swarm. But, instead, they quit work, betrayed symptoms of apprehension or indecision, sometimes flew wildly about, and at others clustered in a bunch

under or from the edge of the alighting board. I have been from home for several days, and on returning last night I found them clustered as before. But to-day I find, say, about half of them idle and the rest at work bringing in pollen varying in colour from cream colour to a deep vermilion.

Now, what do you advise me to do with them? If queenless, would they all perish? If not queenless, should they be allowed to winter in the old skep, or would it be better to order a Ligurian queen and drive them into the new frame hive? I may add that I have everything in the shape of appliances that I think I shall require for manipulating the bees.—J. H. HANNA, *The Manse, Armagh.*

REPLY.—There is nothing whatever in the details given above to indicate queenlessness. The stock was evidently so weak in spring that the best portion of the swarming season was over before the hive was at all incommoded with excess of population, and this has no doubt removed all desire to swarm. In view of the desire to get the frame-hive to work, it is unfortunate that our correspondent did not communicate with us earlier in the season, because there would have been little difficulty in making an artificial swarm from the skep directly it became strong enough to bear depleting of its surplus bees. It is, however, too late now to think of following that course, and we advise wintering the bees in skep.

In the early spring of '96 a little judicious stimulation will bring the bees on in good time for either natural swarming or for making an artificial one; and this will be far the best method of furnishing your first frame-hive.

[1338.] *Establishing Stocks with Driven Bees.*—1. Mrs. L. wishes to know whether if she bought driven bees now (how many pounds) she would be likely to get honey earlier next year, than by buying a swarm in the spring of '96? 2. If you recommend the purchase, should the driven bees be fed, and for how long? and will a hive prepared with comb formation do for this purpose?—*Shepperton Cottage, Middlesex, August* 6.

REPLY.—1. Unless our correspondent had a stock of ready-built combs on hand, it would be far preferable to buy a strong natural swarm in early spring. 2. We do not recommend the purchase of driven bees for starting with in autumn, unless, as stated above, frames of combs are available; in which case four or five lbs. of bees, with young queen, will, if well fed, generally made a very good stock for early honey gathering next year.

[1339.] *Changing Location for Ridding Bees of Foul Brood.*—I have kept bees for several years in frame-hives and have been very successful up to about three years since, when foul brood made its appearance, and by the end of 1894 swept every stock from this district. I had cured my own stocks two seasons following the outbreak, but only to find that it had returned again the succeeding spring. Last April I bought two healthy stocks and put them in new frame-hives, and everything used was new, naphthaline put in each hive and bees fed on medicated food up to June. At this time they were healthy, but by the end of June foul brood had broken out. I may say they stood on the same ground as the old diseased stocks did. Do you think it possible the spores of *bacillus alvei* are in the ground on which the bees stand? There are now nine stocks in this district, all healthy except mine, and all of those except my own are standing on new ground.—W. C. THOMAS, *August* 8.

REPLY.—If changing the ground has had the desired effect in the case of neighbours it furnishes incontestable grounds for following the same course, and we shall be very pleased indeed to record the result if our correspondent can conveniently try it, for the benefit of bee-keepers generally.

[1340.] *Renewing Queens and Combs.*—I have six stocks of bees in frame-hives, in all of which the queens are three years old. I intend, therefore, to get some driven bees, casts, or old stocks from skeps, and save the young queens, and destroy the old ones of my hives, and unite one cast to each hive. 1. Will the plan proposed answer, and is it the right course to take? 2. I have also a stock in a straw skep which has stood four years without swarming. This year I put on two straw supers—one a skep of ordinary size, the other a small one. The lot now are a tremendous weight, and I want to save the bees in one skep to stand the winter, but the bottom skep, which is full of dark comb, badly wants "taking up" in consequence. The second, I think, is too full of surplus honey to winter them in, and the third not large enough. Will you kindly advise me what to do in this case? — C. SMITH, *Wheatacre, August* 8.

REPLY.—1. If well carried out the plan proposed will hardly fail to have the best results. 2. We should not recommend doing away with bottom skep, which is practically the brood-chamber of the stock. The probability is that the larger of the two supers will contain much too great a proportion of drone-comb, and thus be rendered unsuitable for brood-rearing. We should take off the surplus, feed the bees, if necessary, and by giving no surplus-room next year induce the bees to swarm; then do away with the old skep twenty-one days later.

[1341.] *Legal Rights of Bee-keepers and Unfriendly Neighbours.*—After keeping bees at the extreme bottom of my garden for some six or seven years, I regret a neighbouring farmer (whose grass field adjoins bottom of same garden) has this season complained of hens and chickens being badly stung. Rough sketch plan herein indicates my position as

regards boundaries, over which complaining farmer's hens have ere now trespassed. I wish to know whether or not I am quite within my legal rights to continue my bees as before, but at the same time wish to behave fairly to myself whilst considering my neighbour?—G. A.

P.S.—Neither of my neighbours occupying the cottage and strip of garden on each side of my piece of garden, where bees are kept, have ever complained to me.

REPLY.—If your neighbour could prove loss or injury to his live stock through the too close proximity of bees he would certainly have some ground for claiming compensation in a law court. The stinging of a fowl or a chicken, however, would, we think, hardly constitute a sufficient claim in such a case; but the real question is, can bees be kept at nine or ten yards' distance from a fowl run with little or no risk of any such mischief as is complained of? We say they can, and it depends largely upon the bee-keeper himself to secure this result. There seems to us far more danger to horses or cows in the pasture-field adjoining your garden, and separated from it only by a hedge 4 ft. or 5 ft. high; but even this danger (if it is one) could be minimised by growing, say a row of runner beans behind the hives to a height of, say 10 ft. If the flight of your bees lies in the direction of the farmer's land, this would always be helpful in the way of removing risk, because it is a well-known fact that when bees are located close to a public thoroughfare they never do harm either to pedestrians or animals passing along the road when flying to and fro at a few feet higher elevation than the traffic. What we advise is that our correspondent should take all the precautions which modern methods suggest to cause no upset among the bees when removing surplus honey, or when performing operations likely to anger the bees if carelessly done. The adoption of these precautions and the exercise of ordinary skill in managing bees will, we feel quite sure, render it quite unnecessary for entertaining any idea of being compelled to discontinue bee-keeping under the circumstances stated because of a complaining neighbour.

[1342.] *Safety of Queens in Damaged Stocks.*—I received a stock of bees on July 26 last from some distance, and on arrival I found the honey was all running from the comb, and had drowned a good many of the bees. I therefore transferred them to a frame-hive, and, not seeing the queen when doing this, I am anxious to know whether she is alive and all right or not. The bees were, however, carrying in pollen to-day. 1. Is that a sure sign of the queen being safe? 2. Shall I put feeder on, as the stock is rather weak?—JOHN CRIPPS, *Streatham Common, August* 5.

REPLY.—1. The inference is so strongly in favour of the queen being with the bees that little or no alarm need be felt. A glance at the combs, to see if there are eggs therein, would, however, set at rest any doubt on the matter. 2. Yes. Any stock now weak in bees should be fed, to induce a continuance of breeding.

Bee Shows to Come.

August 21. — Wotton-under-Edge and District Bee-Keepers' Association. In the Town Hall, Wotton-under-Edge.

August 21 and 22.—Shropshire B.K.A. annual exhibition of honey, hives, and bee-appliances in connection with the Shropshire Horticultural Society's great fête in "The Quarry," Shrewsbury.

August 21.—Wilts B.K.A., in connection with the Swindon Horticultural Fête in the Public Gardens, Old Swindon.

August 22.—Show of bees, hives, and honey, in connection with the Horsham Horticultural Society's show at Springfield, Horsham. Entries close August 17. Lectures in Bee-tent by the Rev. C. Brereton. R. Gilburd, Sec., 39, Carfax, Horsham.

August 28.—Lancs. and Cheshire B.K.A. at Fleetwood, Lancs. In connection with the Horticultural Society. Show of honey. Open to Lancashire and Cheshire only. Sec., J. F. Williamson, 18, Bold-street, Fleetwood.

August 31.—Manchester and District B.K.A. at Worsley; in connection with Worsley Horticultural and Agricultural Show. Six classes for bees, hives, and honey. Liberal prizes. Entries close August 20. Schedules from Mr. Upjohn, Worsley, Manchester.

September 5. — North Norfolk B.K.A. annual show in connection with the Holt Flower Show, to be held in the grounds of Brinton Hall. Two special open classes for single 1 lb. sections and 1 lb. jars of extracted honey. Entries close August 24. Schedules from the Hon. Sec., C. J. Cooke, Edgefield, Melton Constable, Norfolk.

September 3 and 4, South of Scotland B.K.A.—Annual Honey Show in connection with the S. of S. Horticultural Society's show at Dumfries, nineteen classes for honey. Over fifty prizes. Entries close August 30. John Currie, Secretary, 7, Assembly-street, Dumfries.

September 4.—Herefordshire B.K.A. annual show and honey fair, at Hereford. Eight classes for honey. Entries close August 30. Hon. Sec., Alfred Watkins, Imperial Mills, Hereford.

September 7.—Lancashire and Cheshire B.K.A., in connection with Bramhall and Woodford Horticultural Society. Annual show of bees and honey at Bramhall Hall. Open to district only. Schedules from Secretary, J. Bell, Davenport, Stockport.

September 11 and 12.—At Derby. Annual

show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

September 28. — Roxburghshire B.K.A. Annual Show in the Corn Exchange, Jedburgh. Numerous prizes. Entries close September 24. Thos. Clark, Secretary. Pleasants, Jedburgh.

October 8, 9, 10, and 11.—Dairy show at the Agricultural Hall, London. Liberal prizes in five classes for honey. Open to all. Entries close September 9. For schedules apply Wm. C. Young, sec. Dairy Farmers' Association, 12, Hanover-square, London.

DERBYSHIRE BEE-KEEPERS' ASSOCIATION

A Third Class Examination

WILL BE HELD AT

DERBY

On the Morning of September 12, 1895.

Members of the Derbyshire, Notts, or Leicestershire Assoc. wishing to present themselves as candidates are requested to send in their names to the Hon. Sec., F. WALKER, Cattle Market, Derby.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

A. HAMER (Llanarthney).—*Taking Bees to Heather.*—1. Of the three sprigs of heather bloom received, Nos. 1 and 2 are honey producing varieties; No 3 is of no use to bees. 2. In taking hives so far as five miles to 300 acres of mountain heather we should strongly prefer a location nearer than three-quarters of a mile away. It would obviously be far more advantageous to have the hives "among the bloom," or within a few hundred yards of it. 3. Early granulation of honey in some seasons cannot be satisfactorily accounted for. It arises, no doubt, from the particular atmospheric conditions existing at the gathering time, and this is about all we can say as to the "cause" of rapid granulation.

R. J. P. (Elgin, N.B.).—*Distance Bees should be Moved to Heather.*—There would certainly be some bees lost by returning to the old stands if only moved one mile away to the heather. We should, therefore, leave the hives at home, and let the bees travel to the forage-ground, which is by no means out of their reach.

YOUNG BEGINNER (Ellesmere, Salop).—*Transferring from Skep to Frame-hive.* — Since you have made up your mind to drive the bees from skep and winter them in a frame-hive the sooner it is done the better, so as to give the bees a few weeks of flying weather in which to fix up their new home. The full information now given enables us to answer fully the former query (1328, p. 298) as follows:—1. Invest 7d. in a copy of "Modern Bee-keeping," for full information (with illustration) on the method of driving bees from skeps. 2. Put the bees on the five frames of drawn-out combs, and feed at once till full stores for winter are given. 3. Cut out from skep, after driving, any combs containing brood, and lie them in a frame for insertion in the frame-hive, removing this latter frame after the brood has hatched out It is not certain when the hive will be free from brood; besides it would never do to defer transferring operations on that account.

GLYNN GRYLLS (Honiton).—*Brood Uncapped by Robber Bees.*—There is no trace of foul brood in comb sent. It is quite evident the brood has been partly uncapped during the excitement while robbing was going on, and it has perished in consequence. Great care will be needed in supplying the robbed-out stock with food, which should be given in the evening and feeder removed next morning, otherwise the robbers will carry off the food as fast as given, and weary out the defending bees in trying to save it.

MRS. BENT (Bury-St.-Edmunds).—*Preventing Moths in Quilts and Combs.*—A few balls of naphthaline crushed into powder and sprinkled between quilts will effectually prevent moths harbouring in them. Frames of comb for next season's use should be kept in the boxes used for them on the hives, each box being wrapped in newspaper—in separate packages—with three or four balls of naphthaline in each.

JOINER D. (Oxon).—*Hive Making.*—1. The hive referred to is now seldom seen in use, as few bee-keepers who keep abreast of the times would think of using any but standard frames. Full particulars for making these are given in either of the books mentioned, *i.e.*, the "Guide Book" and "Modern Bee-Keeping." 2. Provided there is about 20 lb. of food in the eight frames left behind, you might remove the outer one on each side of the ten now in the hive.

T. JAMES (Bristol).—Honey received is not altogether from clover, but the quality is very satisfactory, and we should say the district it came from is a good one for bees.

*** *We are compelled to hold over Reports of Northants, Yorks, and Lincs. B.K.A. Shows, with several letters, till next week.*

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, 12 STOCKS of BROWN BEES. Apply T. SMITH, Moulton Chapel, Spalding. I 3

WANTED, Healthy BEES. EXCHANGE Prize Breed Dutch Rabbits or new Frame Hive. T. WATSON, 22, Harrow-street, Armley, Leeds. I 2

DRIVEN BEES, with Queen, healthy, 5s. Empties returned. A. MORETON, Bransford, Worcester. I 1

GOOD STOCKS, in straw skeps, FOR SALE. Healthy young Queens. Apply, GAY, Edmondsham, Cranborne, Salisbury. H 100

Prepaid Advertisements *(Continued)*

FOR SALE, several cwt. ENGLISH HONEY. Excellent colour and quality. G. REYNOLDS, Eaton Ford, St. Neots. H 98

REV. HENRY MATTHEWS, Swynshed Rectory, Kimbolton, OFFERS Choice Extracted Clover Honey at 9d. per lb.; less per cwt. H 99

HEALTHY DRIVEN BEES, 1s. 3d. lb., in 5-lb. lots. Boxes to be returned, or they will be charged for. ED. LONG, Cottenham, Cambs. J 7

NEW SECTION HONEY, 7s. dozen; Extracted Screw-top Bottles, 8s. dozen. Apply W. G. HEDGES, Bishops Waltham, Hants.

PURE ITALIAN QUEENS, from LUCIA PAGLIA, Royal Bee Establishment, 5s. each. Cash with order. J. GREENHILL, 80, Graham-road, Wimbledon.

"HONEY AND ITS USES." By Rev. Gerard W. Bancks, M.A. 3s. 6d. per 100. Specimen copy sent. Address, The Green, Dartford. H 80

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BERRETON, Pulborough, Sussex. 109

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

THE "GARSTANG" HONEY PRESS, for pressing Heather Honey. The best press in the market. For price, &c., apply ROBT. BARTON, Joiner, Garstang, Lancashire. J 4

20 DOZ. SCREW-TOP BOTTLES (Honey), 1-lb. size; 5 doz. Glazed SECTIONS, well filled, FOR DISPOSAL. All 8s. per doz. Deposit. WALTER ROGERS, Princes Risborough, Bucks. H 87

LIGURIAN HYBRID BEES, noted for quiet handling. —Tested Queens, 5s. 6d. each, sent in new Introducing Cages, post free. Safe arrival guaranteed. H. W. BRICE, The Apiary, Thornton Heath, Surrey.

LACE PAPER for GLAZING SECTIONS. 100 strips, 22 inches long, 8d., 200, 1s. 3d., 300, 1s. 9d., 400, 2s. 3d., 500, 2s. 9d. Three neat patterns stocked. W. WOODLEY, Beedon, Newbury.

NOTICE.—No more orders can be taken for Driven Bees.—FOR SALE, HONEY in bulk, 6d. per lb. OWEN BROWNING, King Somborne, Stockbridge, Hants. H 95

DRIVEN BEES, 1s. per lb., guaranteed healthy, with 1895 Queen. Boxes returnable. Extra 1895 Queens 2s. each, post free. S. OATEN, Expert, Prior's Farm, Pitminster, Taunton. H 96

WANTED, 1 cwt. of New, Splendid, Pure WHITE CLOVER HONEY, in 1-lb. Screw-cap Bottles, packed and sent to railway for cash, from healthy stocks. State price, &c., to F. BRIDGETT, Kingsley Holt, near Cheadle, Stoke-on-Trent. H 97

THREE "WELLS" HIVES, well stocked with Ligurian Bees and '95 Queen, plenty of stores for winter, £2. 2s.; with 4 Crates, 21 1-lb. Sections, £2. 10s. Three-Frame Nuclei, Ligurians, 5s. 6d. Hybrids for Sale. J. PARGETER, Cropredy, Leamington. H 93

THE BEST BEE FLOWER for early flowering is ARABIS ALPINA. I will send you 50 strong layers (not seedlings) for 1s. 3d. free. Increases rapidly. Should be in every Apiary. LEIGH, Florist, Broughton, Hants. J 5

FREEHOLD LAND, RAYLEIGH, near Station. Five Acres, main London road, £150; 8 Acres, £240; Plots, 50 ft. frontage, 250 deep, £18 each; 3 Acres, close railway, £100; 60 Acres, Farmhouse, &c., £15 per acre. Part cash may remain on mortgage. LAND, Myrtle Villa, Hornchurch, Essex. J 6

FINE TESTED 1895 FERTILE QUEENS, 3s. 6d. each. Safe arrival. 3-Frame Nuclei, including Queen, 10s. 6d. Bees 1s. 6d. lb. for 5 lb. lots or over, queen included. Guaranteed healthy. Boxes to be returned. C. WHITING, Valley Apiary, Hundon, Clare, Suffolk. Porterage telegrams, 1s. 6d. H 79

I BEG to thank my Customers who have done business with me for so many years, and to ask them to forward their orders. I have some splendid Clover Honey (fit for any table), pale colour, and good aroma, 7d. per lb. in 60 lb. tins. T. HOLLIDAY, The Apiary, Astbury, Congleton. 153

TO BE SOLD, CHEAP, the CONTENTS of a large and successful Apiary:—Eight Hives of Bees for a house on 12 bars, well-provisioned, 15s. each; 4 Hives of Bees on stands, with good covers and tiers for double set of combs, Excluder, and a pair of improved Section Crates, 20s. each. The Hives are worth 30s. without bees. Also a number of good Hives, with clean combs (just fit for driven bees), Honey Vats, Travelling Cans, Crates, Cases, Extractor, &c. I have had a long and successful experience, and have never had any disease in the Apiary. For further particulars apply to C. J. H. FITCH, Hill House, Sible Hedingham, Halstead, Essex.

YE OLDE ENGLISHE BEE.

Fine selected Fertile Queens, 3s. 6d. each; finest tested English Queens, 5s. each. Sent in my Introducing Cage, guaranteeing safe arrival. Parcel Postage 3d. W. WOODLEY, Beedon, Newbury.

BLAKEY'S BEE FEEDER.

Made of wood, zinc, and glass. Holds one pint of syrup, and can be filled without removing from hive, and bees may be observed as they take the food without escaping. Price 6d. each. Postage of one costs 4½d., two 6d., four 9d., six 1s. 1d. J. M. BALMBRA, 2, East-parade, Alnwick, Northumberland.

TO BEE-KEEPERS AND SECRETARIES OF COUNTY ASSOCIATIONS.

GEO. J. BULLER, Triangle, Hitchin, Herts
(Many years Foreman to Mr. T. B. Blow),
Is prepared to undertake the management of Bees and general expert work, by the day or season.
For terms, apply as above.
(DEALER IN BEE-KEEPING APPLIANCES.)

BEE-KEEPERS in LANCASHIRE and CHESHIRE, &c. THE CENTRAL SUPPLY STORES for all BEE REQUISITES is in LIVERPOOL 50, GREAT CHARLOTTE STREET. GEORGE ROSE. Why pay carriage from long distances, when you can buy as cheap and good locally, and *have your orders promptly attended to?* Catalogues gratis. Sow now CHAPMAN'S HONEY PLANT, 6d. Packet. Expected shortly, big lot of HONEY JARS (screw and tieover). Large buyers, please write at once. Very low prices per crate of 3 gross ex dock on arrival. Best Falcon Sections very low per 1,000 or 10,000.

SPECIAL NOTICE.

J. S. GREENHILL has been awarded **FIRST PRIZE** for his **Ten Shilling Cottage Hive,** at Tunbridge Wells Show, a most suitable Hive for Cottagers,
Metal-top Glasses, with wads ... ... per gross 21s.
Glaze Cases (both sides) ... 1s. 9d. doz.; 18s. gross.

J. S. GREENHILL, 80, Graham-road, Wimbledon.
(27 Years with Neighbour & Sons.)

DON'T GET STUNG!

WHEN, BY USING **APIFUGE** YOU CAN PREVENT IT.

BEE-KEEPERS SAY IT IS MARVELLOUS, AND THEY WOULD NOT BE WITHOUT IT.
Send for a Bottle at once.
Small Bottles 1/-, Large Bottles, 1/9, Post Free.
Cash must accompany Order.
To be obtained of all Appliance Dealers and
DARCY CRIMSHAW, HORSFORTH, LEEDS.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

PROPOSED CONFERENCE—ON BEE SUBJECTS—BETWEEN THE B.B.K.A. AND REPRESENTATIVES OF COUNTY COUNCILS.

In pursuance of the further steps taken by the Council of the B.B.K.A. in the endeavour to obtain Government recognition of the Bee-Industry and its needs, the following letter was sent to the various County Councils throughout the country:—

17, King William Street,
Strand, London, W.C.

To the Chairman,

TECHNICAL EDUCATION COMMITTEE.

Dear Sir, I beg to enclose a report of a Deputation of the British Bee-keepers' Association, which has been received by Mr. Herbert Gardner, President of the Board of Agriculture, with a view to devise some plan for dealing with "Foul-brood" among bees.

The prevalance of the disease is seriously affecting Bee-keeping throughout the kingdom, and it is therefore a question of considerable importance to the rural districts.

The Council of the British Bee-keepers' Association do not think that Parish or District Councils, as suggested by Mr. Gardner, would avail for carrying out the proposed measures. On the other hand, they consider that County Councils could properly assist in furthering the object for which they have approached the Board of Agriculture.

If your Council have voted funds for technical instruction in bee-keeping, either alone or jointly with other subjects, I should be glad to know to what extent this has been done.

May I ask you further to inform me whether your Council would be willing to nominate a representative with whom the Council of the British Bee-keepers' Association might confer on the whole subject?—I am, sir, your obedient servant,

THOS. WM. COWAN, Chairman.

We are gratified in being able to report that the response to the above has been very satisfactory. Several gentlemen have already been nominated to represent various County Councils in the forthcoming conference with the Council of the B.B.K.A., while others promise to favourably consider the subject. Some replies are deferred in consequence of no meetings of Technical Instruction Committees till later in the year. It is, however, quite clear—from the replies to hand—that many County Councils favour bee-keeping by making annual grants on its behalf. The help thus being accorded to the bee industry is very gratifying, but, as usual, the satisfaction is not quite without alloy. One County Council refers to past financial aid being spent in an unsatisfactory manner by the local bee association, and states that in consequence further help is suspended. In another case it would appear that bee-keepers are themselves apathetic, seeing that grants have been offered for several years without the local Bee-keepers' Association caring to avail themselves of the proffered help. The replies received undoubtedly show that a large amount of active work is in progress. There is also abundant proof that such County Councils as really understand the subject, are in full sympathy with the measures being taken by the British Bee-Keepers' Association; and we may look forward hopefully to a considerable addition to the supporters of properly-directed efforts on behalf of our industry when the conference referred to in the letter of the chairman of the B.B.K.A. has become an accomplished fact.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of June, 1895, was £5,550.—*From a return furnished by the Statistical Office, H.M. Customs.*

NORTHAMPTONSHIRE B.K.A.

THE annual show of the N.B.K.A. was held on August 5 and 6, in conjunction with the Horticultural Show at Delapre Park, Northampton. The great attraction to bee-keepers was the splendid display of honey in the open class, represented by over 80 entries, 73 of which were staged. The parcels post was responsible for breaking three of the exhibits. In the "workhouse class" there were 50 entries. All exhibits in this class are to be given to the guardians for the inmates of the Northampton workhouse. The entries in the various classes open to subscribers exceed the average of any previous year. The total number of entries amounted to 213, quite crowding the tent. The judges, Dr. Bellew, Mr. J. Francis, and Mr. J. Perry, made their awards as follows:—

SPECIAL PRIZES.—OPEN CLASS

(All exhibits to become the property of the N.B.K.A.).

1-*lb. Jar of Extracted Honey.*—1st, W.

Tustain, Farthinghoe Station ; 2nd, A. Hamer, Llanarthney ; 3rd, Wm. Loveday, Harlow, Essex ; 4th, J. Pollard, Tingewick Mill, Bucks ; 5th, Thos. Salmon, Brackley ; certificate and h.c., L. Inwood, Uffington ; v.h.c., Chas. Slater, Irchester, Wellingborough ; h.c., George Page, Holcot, Northants.

SPECIAL PRIZES.—WORKHOUSE CLASS.

(All exhibits in this class become the property of the N.B.K.A. for presentation to inmates of the workhouse.)

1-lb. Jar Extracted Honey. — 1st, J. B. Butlin, Rugby ; 2nd, H. W. Seymour, Henley-on-Thames ; 3rd, A. Hamer ; 4th, Thos. Elliott, Collingtree, Northants ; 5th, C. Cox, Brampton.

PRIZES PRESENTED BY MR. C. REDSHAW, SOUTH WIGSTON.

Twelve 1-lb. Glass Sections. — 1st, C. Cox ; 2nd, O. Orland, Flore.

PRIZES PRESENTED BY MR. W. A. PALMER.

Best 1-lb. Section.—1st, C. Cox ; 2nd, W. Tustain ; 3, W. Reynolds.

Twelve 1-lb. Sections.—1st, W. Tustain ; 2nd, J. R. Truss, Ufford Heath ; 3rd, Thos. Salmon ; 4th, C. Cox.

12lb. Extracted Honey.—1st, Lewis Jordan, Holdenby ; 2nd, John B. Butlin ; 3rd and 4th, equal, J. R. Truss and O. Orland ; v.h.c., James Adams, West Haddon ; h.c., Percy Grundy, Broughton Manor Lodge.

Six Bottles Granulated Honey..—1st, W. Tustain ; 2nd, O. Orland ; 3rd, James Adams.

Exhibit of Honey in Comb.—1st, W. Tustain ; 2nd, O. Orland ; 3rd, E. Brice, Dallington ; 4th, C. Cox.

Bees' Wax.—1st, Percy Grundy ; 2nd, C. Cox, 3rd, James Adams, 4th, O. Orland.

Six 1-lb. Sections (non-previous winners only).—"F." 1st, W. Reynolds, Overstone ; 2nd, J. S. Partridge, Wollaston ; 3rd, Thos. Elliott.

Six 1-lb. Jars Extracted Honey.—1st, J. B. Butlin ; 2nd, G. Page ; 3rd, P. Grundy ; 4th, Thos. Elliott.

Super of Comb Honey.—1st, Thos. England, Overstone.

Mr. J. R. Truss gave practical demonstrations in the "bee tent" at intervals during both days, a large number of interested spectators attending.—*Communicated.*

YORKSHIRE AGRICULTURAL SOCIETY.

SHOW AT HALIFAX.

The above important exhibition was held at Halifax on August 7, 8, and 9, and as usual a section was devoted to bees, hives, and honey. This department of the show has developed exceedingly during the past few years. A large number of visitors were attracted to this section of the show-ground, and Mr. R. A. H. Grimshaw, the hon. sec. of the association named, was attentively listened to by large numbers of visitors during the delivery of his short lecture on bees and bee-keeping at various intervals during each day. He was assisted by Mr. W. W. Dixon, of Leeds, and the Rev. R. M. Lamb, who also gave hints on bee-keeping of an eminently practical character. The society offered substantial prizes for exhibits, which had the result of creating keen competition. The authorities of the Yorkshire and other shows do well, therefore, to encourage bee-keeping, and the exhibits at the Yorkshire show are yearly increasing in interest and extent. This year, for the first time, there were trophy exhibits of extracted honey and honey-comb, and the splendid trophy of Mr. William Dixon, Beckett-street, Leeds, attracted general admiration. The whole of the honey shown was of the finest quality, as the early part of the season was very good for the bee-keeper, but last month's heavy wet and cold winds were far from being beneficial to the bee.

The Rev. J. L. Seager officiated as judge, and made the following awards :—

Collection of Hives and Appliances.—1st, W. Dixon, 5, Becket-street, Leeds ; 2nd, A. C. Jemieson, Dringhouses, York.

Most Complete Frame Hive.—1st, W. Dixon ; 2nd, A. C. Jemieson.

Observatory Hive.—1st, W. Dixon ; 2nd, A. C. Jemieson.

Honey Trophy.—1st, W. Dixon ; 2nd, W. Smith, Preston, Hull ; 3rd, Miss S. J. Cooper, St. Nicholas-square, Leicester.

Twelve Sections.—1st, W. Smith ; 2nd, Miss S. J. Cooper.

Twelve Pounds Extracted Honey.—1st, Miss S. J. Cooper ; 2nd, H. W. Seymour, Henley-on-Thames.

LINCOLNSHIRE B.K.A.

SHOW AT BLANKNEY.

This popular Show, the honey department of which is held in connection with the Lincolnshire B.K.A., took place on the picturesque grounds of Blankney Park by permission of the Right Hon. H. Chaplin, M.P., and was attended by quite 20,000 people. There was a grand display of honey and beeswax, the exhibits numbering fifty-five. The bee-tent of the L. B. K. A., was present and Mr. F. H. K. Fisher gave lectures to large audiences. Gerard J. Young, Esq. J.P., and Mr. F. H. K. Fisher acted as judges and made the following awards :—

Observatory Hive.—1st, R. Godson, 2nd, J. Coulson.

Twelve 1-lb. Sections.—1st, R. Godson, 2nd. A. Barnes, 3rd, D. Ablewhite, 4th. T. Sells.

Twelve 1-lb. jars Extracted Honey.—1st,. J. Coulson, 2nd, C. Foster, 3rd, A. Barnes. 4th. Mrs. Hawley.

Six 1-lb. Sections (Cottagers only).—1st, J Coulson ; 2nd, A. Barnes.

Six 1-lb Jars Extracted Honey (Cottagers

only).—1st, J. Coulson ; 2nd, W. Phillips ; 3rd, Miss Baines.

Beeswax.—1st, W. Phillips ; 2nd, W. Paulger ; 3rd, C. Taylor.

Bell-glass Super.—1st, J. Hammond ; 2nd, W. Allenby.

Honey Design (Special).—D. C. Blackburne.

Twelve 1-*lb. Sections in Blow's Sections.*—1st, T. Sells.

Twelve 1-*lb. Jars of Extracted Honey in Blow's Jars.*—1st, G. Roberts.

TAUNTON AND DISTRICT B.K.A.

An exhibition of honey, arranged by the above association, was held in Vivary Park, Taunton, in connection with the show of the Horticultural Society on August 10.

The bees and honey occupied a separate tent, and formed an exceedingly pretty show. On the whole, it is the best exhibition of this kind that Taunton has had for several years past. In the comb and run honey classes the judges experienced considerable difficulty in arriving at their decisions, owing to the general evenness of quality and the large number of exhibits.

The duties of judging were undertaken by Col. Lewis, Muloxton, and Mr. C. Tite, Yeovil, who made the following awards :—

Collection of Honey.—1st, R. Addison, North Petherton ; 2nd, W. Pierce, North Petherton ; 3rd, J. Seldon, Barnstaple.

12-*lb. Sections.*—Equal 1st, R. Addison and J. Seldon ; 3, W. Pierce.

12-*lb. Jars Extracted Honey.*—1st, R. Addison ; 2nd, J. Hookway, Wellington.

Glass Super.—1st, J. Seldon ; 2nd, R. Addison.

Super in Straw or Wood.—1st, H. Bennett, Long Sutton ; 2nd, E. Marks, West Buckland.

Beeswax.—1st, J. Hookway, 2nd, J. Seldon.

Observatory Hive.—1st, W. Warren, Bridgewater ; 2nd, J. Buckland, Pitminster.

Collection of Bee-keeping Appliances.—1st, A. Wolfe, North Curry ; 2nd, J. Trebble, South Molton.

During the afternoon, Mr. A. Wolfe, Hon. Sec. T. and D.B.K.A., gave an interesting demonstration of practical bee-keeping in the bee-tent. The lecturer advocated the claims of the Bee-Association, and urged the use of the county label on all honey bought and sold, as a protection to both buyers and sellers.

SHOW AT NEWBURY.

One of the largest and best Honey Shows yet held in Newbury was that on August 5, in connection with the Newbury Flower Show, and the District Committee of Berks Bee-keepers' Association are to be congratulated on the success which attended their efforts. Nearly three-quarters of a ton of honey and wax exhibited, all of excellent quality. On entering the honey tent one was struck by the three displays staged on the centre table. The palm must be given to the superb exhibit of Mr. W. Woodley. The Rev. W. E. Burkitt and Mr. A. D. Woodley officiated as Judges, their awards being as follows :—

Display of Honey. — 1st, W. Woodley ; 2nd, E. W. Goddard ; extra, J. Butler.

Best Exhibit not over 50 lb.—1st, E. Turner ; 2nd, Miss E. E. Myers ; extra, W. Seymour.

Twelve 1-*lb. Sections.*—1st, E. Turner ; 2nd, A. Canning ; 3rd, Mr. Seymour ; h.c., E. W. Goddard.

Twelve 1-*lb. Jars Extracted Honey.*—1st, E. Turner ; 2nd, Mrs. A. Jackson ; 3rd, Mr. Seymour ; v.h.c., Miss E. E. Myers.

Six 1-*lb. Sections (Local Class).*—1st, Mr. Canning ; 2nd, W. Woodley ; 3rd, Mr. Lawrence ; v.h.c., J. H. D. Beales, J. Butler ; h.c., E. W. Goddard.

Six 1-*lb. Jars Extracted Honey.*—1st, W. Woodley ; 2nd, A. Canning ; 3rd, E. Turner.

Non-Sectional Super.—1st, Lawrence ; 2nd, J. Butler ; 3rd, Sergt. Dance.

Six 1-*lb. Run Honey (Cottagers only).*—1st, Mr. Bishop ; 2nd, Mr. Bew ; 3rd, Mr. Bucket.

Six 1-*lb. Sections.*—1st, Mr. Bishop ; 2nd, Mr. Bew ; 3rd, Mrs. Allen.

Beeswax.—1st, Mrs. Woolridge ; 2nd, Mr. Peskett.

Driving Competition.—1st, A. Canning ; 2nd, Mr. Lawrence ; 3rd, E. W. Goddard.

The judges made the following note on the show :—"The judges wish to place on record their opinion that the large quantity and the uniform splendid quality of the exhibits are strong evidence that the Newbury branch of the Berks B.K.A. are doing excellent work ; the exhibits in cottager classes being quite equal to those in the open classes."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE JOTTINGS.

FROM HIGHWAYS AND BYPATHS.

[2151.] *Do Bees Carry Eggs?*—Since I last wrote on this subject (2123, p. 292) the unexpected has happened, resulting in the development of what I consider to be one of

the most interesting facts connected with bee-keeping which has as yet come under my notice, a fact which, moreover, throws a new light on the domestic economy of the bee-hive. The correspondent I referred to on p. 292 writes me as under :—

"This is the twenty-seventh day since the queen arrived, and for several days past worker-bees have been coming out of the cells; the drones are also forcing themselves out into the hive ; they are small owing to their being raised in worker cells, *and are much lighter in colour than any drones I have, hitherto, had in my apiary.*"

The Queen mentioned, it will be remembered, was kept caged in the hive for several days after she arrived, so that the fact of workers issuing from their cells on the twenty-seventh day is accounted for by the queen laying the eggs almost immediately after she was liberated. The drones, however, take twenty-eight days to develope, yet on the twenty-seventh day they began to appear. This may be explained by the warmth of the weather. It is, however, far more probable that they were from eggs laid by the queen during transit and not eaten by the bees that accompanied her, but removed after she was placed in the hive by the inhabitants thereof. The queen had a large percentage of the Ligurian element in her constitution, which makes it certain that her progeny, especially the drones, would show in more or less a degree Italian markings. Now, as the drones produced from the removed eggs are lighter than any before seen in that particular apiary, the inevitable conclusion is that the eggs referred to—whether producing drones or workers—were laid by the queen while in durance. In fact, the colour of the drones forms an indisputable corroboration of the fact that bees do, under certain circumstances, remove eggs for their own purposes. I should not trouble to enforce this point so strongly but for its very important bearing on what I would term the practically scientific side of the question. Assuming, therefore, the facts above detailed to be proved, there is still another point worth recording, *i.e.*, that a queen seems possessed of some latent instinct enabling her to know that eggs laid under the then existing conditions would be wasted, and that in consequence she should have preserved the fertilising element for eggs laid under more favourable conditions. This should cause no surprise considering the perfect economy prevailing in everything connected with bees, which may, indeed, be said to "do nothing invariably."

Hatching Queens and Thunder Storms.—In July of last year I recorded in B.B.J. (p. 284) how a batch of embryo queens had been destroyed in their cells by a thunder-storm. Less than five weeks ago a precisely similar mishap occurred in my own apiary during the storm on July 4, last. Queens within twenty-four hours of hatching out were safe as were those in unsealed cells, but nearly every queen that had just recently passed into the nympha or pupa stage was destroyed ! It not seldom happens that an odd cell or two for some unaccountable reason fails to hatch. I also occasionally find that a new queen is malformed, such as being minus a wing or wings, deformed legs, &c., but, just as with human beings, these malformations may be traced to extraneous circumstances over which the most careful beekeeper has no control.

Size of Hives.—Much discussion has taken place in the American bee journals as to the most profitable size of hive for all purposes, and, as might be expected, there is a great difference of opinion on the subject ; but I think the majority have come to the conclusion that a hive of very nearly the same capacity as our own ten-standard frame one is the best. There, as here, local circumstances must be taken into consideration, but there is one point upon which I think too little stress is laid in determining the question, and that is the enormous difference in the fertility of queens ; for, whereas one queen would cover twelve to sixteen standard frames with brood if she had the opportunity, for others eight frames are amply sufficient. It, therefore, appears less a question of size of hive as prolificness of the queens occupying them. If this element be taken into consideration, make the hive large enough, and have the means of adjusting size of brood-chambers to meet the laying capacity of our queens, and the question is solved. On this side of the Atlantic we have this desideratum ; whether we take full advantage of it is, of course, another question. It is something, however, to find that in some things apicultural we are in advance of our cousins on the other side. There is the question : Whether a queen that will cover twelve to sixteen frames with brood will give as large, or a larger, surplus as one covering only eight is matter for experiment. But no one can doubt that so far as producing abundance of bees at the proper time, *i.e.*, before the honey flow, the more frames the queen will cover with brood the merrier, but, after the flow is over, big armies of bees are of comparatively little value.—H. W. BRICE, *Thornton Heath.*

REMOVING FAULTY COMBS.

[2152.] I notice in this week's "Hints" you advise readers first to feed up for winter and then look over hives for superfluous drones or faulty combs, marking same for removal later, when packing up for winter. While admitting that it is somewhat presumptuous for me to criticise you, I can't help thinking it would be undesirable to first induce bees to fill faulty combs with syrup and then remove them. I would rather say remove faulty combs directly brood which may be in them is hatched and then feed up for winter. Personally I often take, at this time of year, a frame of ill-formed

or pollen-clogged combs from brood nest, place it in back part of hive for brood to hatch, and then remove it. I strongly object to having old, ill-shaped, or drone combs in hives, and consider the present a good time to weed them out. Hope you will excuse "cheek," bad grammar, bad spelling, and bad writing. With best wishes.—E. S. MILLER, *Chippenham, August 16th.*

[The last line of "Hints" referred to should have read, "marked for removal when final winter packing takes place, or later on," the word *or* being inadvertently omitted. When writing we had in view, not so much faulty combs, as the extreme importance first of getting all feeding-up completed early, and afterwards of detecting scattered sealed cells caused by foul brood. For the rest it may be said such combs as our correspondent names may be left in the hive till spring without any ill effects, if marked for removal at that time. We might have made our meaning clearer on page 321 had this been said in so many words. We fail, however, to see anything like what our correspondent terms "cheek" in his criticism, which is quite unobjectionable. His own view of what is best to be done is a perfectly correct one in his own case. Unfortunately for ourselves, however, we have to frame the expression of our views so as best to meet those of thousands, with all their varying surroundings.—EDS.]

GLASS COVERS FOR FRAMES.

[2153.] A correspondent in B.J. of October 4, 1894 (p. 396), recommended "glass covers" for hives, so I forthwith set about making some, and, being quite a novice, it has been most interesting to me to be able to watch the progress the bees were making. I would like to know if the writer above referred to used these glass "quilts" in the winter, or if he then reverts to the orthodox "pile of marine stores?"

It seems to me that the moisture arising from the bees in winter would condense on the glass, and be harmful. You will, perhaps, remember that I wrote you last autumn for some advice re transferring from skeps to frame-hive. Well, I followed your advice—namely, to put skeps on top of frames fitted with full sheets of foundation. One was an observatory hive, so I was able to watch proceedings, and when I saw brood below ready to hatch out I took off the skep, and found it pretty nearly filled with honey. Most of the brood had hatched, but what little was there I cut out and fitted into frames (contrary to your instructions, this part of this business), but now consider myself a fool for my pains. My year's work stands thus:—Hive No. 1, 34 lb. honey; No. 2, 39 lb.; a third lot (a swarm bought May 28, and hived on seven-wired frames of foundation), yielded 12 lb. in sections, besides having worked out a lot of comb which I have put away for the future. The above weights do not include unconsidered trifles which found their way to one's mouth during manipulations. I took my honey between July 6 and 13, and then divided my stocks, so that I now have six—all, I believe, having queens. I have been feeding slowly ever since dividing the stocks, and all appear to be doing satisfactorily, the smallest lot of bees covering six frames.

I made an attempt to introduce a fertile queen to my one hive—where I was in doubt as to the presence of a virgin queen, which hatched out a fortnight before, and had laid no eggs—but found her dead thirty hours after. Would the bees, having an unfertile queen, kill the one in the cage? I send her herewith, and would like to know her probable age and variety. No doubt I have handled my bees a great deal too much, but I want to learn all I can practically, and acquire skill and coolness in handling.

I send rough, unfinished photos. of two of my home-made hives. (I have ten in all.) Don't you think they look quite professional? I make my own "tin ends" for spacing frames, and they cost next to nothing. I send one as sample. If I am bothering you too much just chuck this into the gaping jaws of the W.P.B., and try and forgive—A COUNTRYMAN, *Hereford, August 16.*

[Before introducing alien queens the one to be deposed should always be removed beforehand, whether fertile or not. The hives and home-made tin ends are most creditable, and quite prove your independence of professional help in these matters.—EDS.]

BEE-KEEPING IN YORKSHIRE.

AN AFTERNOON IN A COTTAGER'S APIARY.

[2154.] A visit to Bedale on official business connected with society shows led me to spending a very pleasant afternoon in the apiary of that well-known Vale of Mowbray veteran bee-keeper, Mr. John Chisholme, of Leeming village, a few miles from the famous market and historic town of Bedale. Starting from Leeming Bar railway station, after travelling for about two miles south on the beautiful Great North road, we arrived at Mr. Chisholme's apiary. A very pretty little place it is, nicely retired, just far enough away from the main road to suit the owner of a goodly stock of bee-hives, and surrounded by all that makes a "model" for an English cottager's home. In the front, flowers, fruit, and vegetables grow in abundance in the good-sized and well-kept garden. Indeed, the neatness, scrupulous cleanness, and order prevailing everywhere, inside and out, made it quite delightful to contemplate how many of God's gifts are available in an humble home with such occupants as John Chisholme and his good wife. Our host met us, and, after a cordial greeting, we were soon busy among the

bees. The most prosaic—though by no means a dull or uninteresting—part of the surroundings is the bee-*yard*, which in every sense it is. No one would call it a bee-*garden*, for nothing grows in it, if we except bees and honey. The stocks of bees—between thirty and forty in number—are all in frame-hives, and stand in just so much space as will hold them, and allow passage way round; the limited space at command compelling this arrangement. Although it strikes an onlooker how advantageous it would be to have the hives occupying about four times the space, however, as one sees plainly, the bees have grown and multiplied, while the size of the yard perforce remains stationary, so Mr. Chisholme makes the best of it, and is too old a bee-man not to be able to maintain order, even in so crowded an assembly of "workers" as his. Mr. Chisholme has been more fortunate than any other bee-cultivators that we have come across this season. He, during the cold and flowerless forepart of the year, kept his bees well nourished, consequently they were in good working order when the late foliage bloomed. By his forethought he has not only greatly improved his stock of bees, but also increased the weight of their produce. We should consider that, at the present time, he has one of the finest and best stocks of honey north of York.

A number of his friends press him to exhibit his sections, but as he has not made a practice of doing this, he flatly refuses to do so. Should he change his opinion, there is no hesitation in stating that he would take first honours at what ever shows he exhibited. The weight of his sections far excel all his anticipations, and will amply repay him for his trouble. We must not forget to state that his wife, although an invalid, greatly assists him in working his apiary. His apiary is well worth a visit of all lovers of bee culture and there is nothing delights Mr. Chisholme more than to meet a brother bee-breeder, and have a chat about bee-breeding. In a short time Mr. Chisholme will be removing the greater part of his hives to Ellingstring moors, where the bees will get an ample supply of honey from the heather, and there is no doubt that on their return, it will be pronounced that the yield of 1895, has far surpassed all previous years.—Wm. Hy. Walton, *Northallerton, July* 27.

MALICIOUS DAMAGE.

AN UNPLEASANT EXPERIENCE.

[2155.] In the autumn of 1894 I purchased a skep of bees for 2s. 6d. There were few bees in it and less stores. An old bee-keeper said I could not winter it, but by careful feeding, &c., and wrapping-up, a few bees and the queen survived (a '94 queen). I fed it slowly during spring, and it turned out one of the strongest stocks that I had. I put a very large super on at beginning of June, and on looking at it last week found it nearly full of beautiful white comb and honey. I entered my super for our local show. To-day I made preparation for removing what I hoped would be my prize super, but on going into the garden I found the hive turned over under a gooseberry-bush, and my grand super lying a few yards away smashed to pieces, and the poor bees lying dead in hundreds. It was positively hard work to keep the tears back, and, to make matters worse, I got well stung into the bargain.

My bees have paid me well, and this is the first reverse I have had. It is clearly the work of some malicious individual. My worst wish is that the perpetrator may "reap as he has sown."—F. G. Bennison, *Scorton, Darlington, August* 15.

BEE-CULTURE IN SOUTH CORNWALL.

[2156.] On July 25 a small quantity of honey was exhibited at the meeting of the Serpentine District Horticultural Society, held in the grounds of the Rev. J. J. Mallock, St. Ruan Minor Rectory, near the Lizard. Several parishes are included within the range of the society's interest, and there seemed to be several members who were at least interested in bees and honey. By way of encouraging the production of honey, prizes were offered this year for the best six sections. Only four lots were staged—some good, all fair. Two were well set up, but the operation did not secure each a prize. The adjudication was made by the Rev. C. R. Sowell, Vicar of St. Goran, an active member of the Cornwall Association while it existed. But that gentleman's chief work was to give two addresses during the afternoon on modern bee-keeping. He had the use of a hive and the diagram of the B.B.K. Association, kindly lent by Mr. Cowan, and he treated of the natural history of the bee, compared the old methods with the new, explained driving, transferring, re-queening, &c., and afterwards answered several questions. It was obvious that many people, who knew a little about bee-keeping, wished to know more, and it may be hoped that a stimulus has been given to the industry. A good deal of clover honey should be secured in the neighbourhood, weather, of course, permitting. The lectures were given at the instance of the Technical Committee of the County Council of Cornwall.—South Cornwall, *August* 5.

ROYALTY AND BEE-KEEPING.

The Empress Frederick of Germany is at present taking a great interest in the cultivation of bees and the production of honey, and has been visiting various noted bee-keepers in her neighbourhood. Her Majesty takes a great

interest in all industries, and hopes, by example, to persuade the peasant population to take up new and left-off industries.—*British Weekly.*

METEOROLOGICAL SUMMARY.

JULY, 1895.

Locality, Stoke Prior, Worcestershire.

Height above sea-level, 225 ft.

Rainfall, 2·65 in. In July, 1894, 2·57 in. rain fell.

Greatest fall in 24 hours, 0·58 in. on the 18th.

Rain fell on 14 days. In July, 1894, 12 days.

Max. shade temp., 76° on the 8th; max. for July, 1894, 81°.

Min. temp., 38° on the 12th and 29th; min. temp. for July, 1894, 40°.

Max. shade temp. at 9 a.m., 67° on the 7th.

Min. temp. at 9 a.m., 55° on 3rd and 4th.

Frosty nights, nil. During July, 1894, nil.

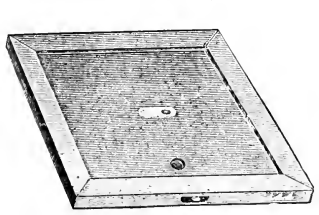
Max. barometer, 30·075 on 5th and 6th.

Min. barometer, 29·3 on 2nd, 20th, and 21st.

A cold and wet month. What a contrast to June! Very little nectar secreted. Sections being emptied in some hives. Aftermath far better than anticipated, but owing to the low temperature not much visited. Yield of honey in the immediate neighbourhood far below the average.—PERCY LEIGH, *Beemount.*

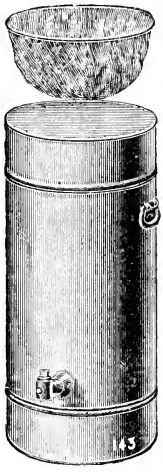
NOVELTIES FOR 1895.

Mr. W. P. Meadows forwards particulars of some seasonable novelties for present use. The first of these is his latest improvement in super-clearers, which—as will be seen in the cut—consists of a slide of tin, inserted in the



MEADOWS' IMPROVED SUPER-CLEARER.

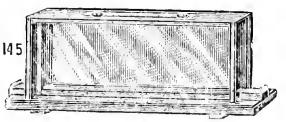
outer edge of clearer, by means of which a circular hole in floor of the latter is covered or opened at will from the outside. This arrangement enables the bee-keeper to set his clearer on in the usual way, and when the surplus chamber is removed after being cleared of bees the combs can be returned for "clearing up" after extracting, the bees re-admitted by withdrawing the slide, when combs are cleared, and again shut off from below by pushing in the slide, the bees passing into the brood nest by the bee-escape. Thus the bees pass in and out of the super at the will of the bee-keeper, and no trouble, upset, or stings need be feared.



MEADOWS' "COTTAGER" HONEY RIPENER.

Another useful bee appliance just introduced by Mr. Meadows is the "Cottager's Honey Ripener." The accompanying cut shows its form, and when we state that its price is only 5s., with 1s. extra for "drainer" shown at top, none will dispute its suitability for the means and wants of the cottager bee-keeper. By its use the thick honey, as it ripens, may be drawn from the bottom by means of the valve shown.

Lastly, we have a cheap and neat case or frame—glassed on both sides—for sending



SHALLOW FRAME CASE.

to shows either three 1-lb. sections, or a shallow-frame of comb honey. The price of these show cases is 1s. each, or 10s. per dozen.

Queries and Replies.

[1343.] *Bees in Hive Roof.*—I should be glad if you could advise me in the following matter:—A friend in Normandy started bee-keeping this year with a bar-frame hive. The hive was put in position, and a neighbouring peasant instructed to put his first swarm into it. He did so, but, never having seen a hive of the kind before, poured the bees amongst the frames, and omitted to put the quilts in place; with the result that the bees have filled the roof with comb, and not touched the foundation in frames. My friend (who is a lady) knows nothing about bees, and writes me to ask what is to be done. My idea is as follows:—Take off roof, drive bees into a skep,

then run into frames from front of hive, put excluder over frames, replace roof, and leave until end of season, then remove roof again, cut out all comb, feed and pack up for winter. If the foundation is not drawn out by that time, I suggest putting drawn-out comb in place of foundation. I shall probably be able to go over during the last fortnight of August or first ditto of September, if this is not too late. I have not been a bee-keeper long myself, and have never driven bees, so any advice you can give me will be acceptable. Hoping I am not troubling you too much, and thanking you in advance.—W. L. C., *London, E.C., August* 1.

REPLY.—If you are yourself competent to drive the bees from hive-roof they could be got out to built-out combs in frame-hive and fed up for winter. We should, however, on no account put queen excluder between roof and hive body, seeing the risk of queen being left alone in the latter to perish, while the bees crowd through the zinc to the brood and stores above. In "driving," the frames of comb should be arranged in position and coverings properly fixed, the hive being raised in front to allow free entrance for the bees. Then turn roof gently over and fix it level with the alighting board and with *ends* of the combs towards entrance; beat on the sides of the roof, and use a little smoke if needed to drive the bees in at the entrance. After driving, cut out all combs containing brood and tie them firmly into frames, inserting each one among the driven bees as soon as ready. Feed well for winter with syrup, and appropriate the honey in roof. We should not entrust the carrying out of the above operation to the peasant who hived the swarm.

[1344.] *Taking Bees to the Moors. Queens Piping in Non-Swarmed Hives.*—I took my bees to the heather on August 10, and, when finally closing the entrance to one stock, distinctly heard the queen inside "piping." Now, as the hive had not swarmed this season I could not understand it, for, though I have kept bees for many years, I never previously heard "piping" before a first swarm had come off. However, as the stock was very strong in bees, and likely to store honey well, I determined to take them. When set down at the moors I again heard the piping, and acting upon the strong recommendation of a bee-keeper more experienced than myself, I was persuaded to get the stock back without delay. During the homeward journey the weather became so hot, and the bees so excited that the combs all melted down, and the stock was ruined. I therefore ask:—1. Did I do wrong in taking the bees out, and in bringing them home? 2. Can you account for the mishap? 3. Is it usual for queens to pipe under the circumstances?—W. NIXON, *Horsby, August* 12.

REPLY.—1. It was a mistake to undertake the outward journey after hearing the queen "piping," and a fatal error to keep the bees confined and attempt the return journey on a hot day. We have little doubt that the stock has sent out a top swarm unseen, and, through some mishap to the queen, the swarm has returned to the parent hive. So that the "piping" would be from the young queen, which, if the hive had been left at home, would have swarmed out with practically a top or prime swarm. 2. The mishap would no doubt arise through the heat and excitement within the hive occasioned, may be, by an attempt to swarm and consequent suffocation of the bees in their mad attempt to get out. The break-down of the combs resulted from the heat and jolting in transit.

[1345.] *A Lady's Difficulty with Bees.*—1. Will you kindly tell me the best thing to do with my hive of bees, which has given me this year forty 1-lb. sections, besides filling up all the twelve frames in the brood-chamber. I have seen two or three maggots turned out at the entrance, besides no end of wax cappings, and, therefore, judge that the wax moth has got into the brood-frames. I cannot say if it has got into the lower rack of sections, but hope not. However, I shall know when I remove the sections in about a week, as I don't think there is much more honey to get about here now. 2. What do you advise me doing with the lower frames, where the moth is evidently located? I have an empty hive fitted with comb foundation, which I thought of driving the bees into. I shall then, of course, have to feed on medicated syrup, which would not be needed if the bees could have remained in their present hive. 3. Can I remove the moth from the brood-frames, so as to use them again next spring for other bees, or must I destroy all the comb and put fresh in the frames? I shall look anxiously for an answer in next week's JOURNAL.—(MRS.) J. M. ARNOTT, *Woodbridge, August* 8.

REPLY.—1. The "best thing to do with the hive" is to remove the remaining rack of sections at once, and we shall be very pleased to hear that their contents are intact, for we rather suspect some portion of the "no end of wax cappings" mentioned, will be the cappings of sections removed by the bees before carrying the contents into the hive below. The "maggots" turned out will no doubt be the larvæ or young brood of bees, not of the wax-moth at all. 2. If, as we anticipate, the lower frames are found to be not too well-filled with honey, leave them and bees where they are. 3. Let us know what condition the frames in brood-chamber are after examination, when we will advise further.

[1346.] *The Need for a Text-Book.—Making Artificial Swarms in Autumn.*—One of my hives swarmed about middle of July, but after settling on a bush for about ten minutes the bees went back to the parent hive, and there has been no appearance now of swarming again. I therefore

ask:—1. Would it be too late now to make an artificial swarm from the above hive? 2. Would it do to remove the above hive to a new location, and put a new hive on the old stand, so that the flying bees will form the second swarm, if I introduce a new queen, as I wish to leave the old queen in number one hive with the young bees? 3. Would the young bees not go back to the parent hive, and leave the old queen and brood deserted?—R. G., *Renfrew, N.B.*

REPLY.—1. For making artificial swarms successfully, two things are indispensable—viz., honey income and drones. Now, as both these essentials are—in most places—usually absent in August, the chances of success are practically absent. 2. Your second suggested method is just the reverse of the right one; the proper way being to set the queen with a comb of brood on the old stand. This done, the adult or flying bees return to their original location, and form the swarm, while the young bees left in the parent hive raise a queen from the eggs or brood left with them. To depart from this rule is to court failure. 3. Young bees—which have not become regular field-foragers—will stay wherever put, but old ones will go back to the old stand. Want of knowledge on these important points clearly proves the need for a text-book to all beginners in bee-keeping.

[1347.] *Sainfoin and Buckwheat.* — Can Sainfoin, so highly recommended by your Spanish correspondent on page 324 of yesterday's issue (August 15) be grown in England with equal success? 2. What return could I expect from a quarter of an acre of buckwheat, and is the plant of any further use to cattle after the grain has been gathered?—E. H. C., *Par Station, Cornwall, August* 16.

REPLY.—1. Sainfoin is largely grown in districts of the south where chalky soils predominate. It is an equally good forage plant with the best clovers, and in good seasons yields a plentiful supply of very fine honey. 2. After the crop of buckwheat is gathered in, what remains is exactly analagous to the "stubble" of a wheat crop, and is, like the latter, ploughed in.

[1348.] *Dividing Stocks.—Loss of Queen.*—On Monday, August 5, I drove several lots of bees which I united into four lots. The queens began laying at once and all went well until to-day on looking at what has, up to the present, been the most prosperous stock, I found that the queen had disappeared and that they were raising about twelve queen cells, all with larvæ of some days' growth in them. The queen has evidently been lost at least three days. The stock is fairly strong and I am unwilling to unite it to another unless that is really advisable. I would, therefore, be glad of your opinion on the following points:—1. What will have been likely to have happened to the queen? 2. Will the young ones be likely to get fertilized? (My other stocks have destroyed all drones and this one has none, but there are plenty of bees in the neighbourhood). 3. Would it be worth while buying a fertile queen?—"FENMAN," *Boston, Lincs, August 14th.*

REPLY.—1. If you have been manipulating the frames of hive after uniting driven bees we should suppose that some mishap had happened to the queen while the combs were being handled. In no other way can her disappearance be satisfactorily accounted for. 2. The chances are entirely against the queens now hatching ever getting mated. Why not add another lot of driven bees with their queen?

Bee Shows to Come.

August 21 and 22.—Shropshire B.K.A. annual exhibition of honey, hives, and bee-appliances in connection with the Shropshire Horticultural Society's great fête in "The Quarry," Shrewsbury.

August 22.—Show of bees, hives, and honey, in connection with the Horsham Horticultural Society's show at Springfield, Horsham. Entries close August 17. Lectures in Bee-tent by the Rev. C. Brereton. R. Gilburd, Sec., 39, Carfax, Horsham.

August 28.—Lancs. and Cheshire B.K.A. at Fleetwood, Lancs. In connection with the Horticultural Society. Show of honey. Open to Lancashire and Cheshire only. Sec., J. F. Williamson, 18, Bold-street, Fleetwood.

August 30.—At Abington, in connection with the Abington Flower Show. First Annual Exhibition of the Upper Clydesdale B.K.A. Schedules from Mr. Robert Coltart, Arbory Villa, Abington, N.B. Entries close August 24.

August 31.—Manchester and District B.K.A. at Worsley; in connection with Worsley Horticultural and Agricultural Show. Six classes for bees, hives, and honey. Liberal prizes. Entries close August 20. Schedules from Mr. Upjohn, Worsley, Manchester.

September 5. — North Norfolk B.K.A. annual show in connection with the Holt Flower Show, to be held in the grounds of Brinton Hall. Two special open classes for single 1 lb. sections and 1 lb. jars of extracted honey. Entries close August 24. Schedules from the Hon. Sec., C. J. Cooke, Edgefield, Melton Constable, Norfolk.

September 3 and 4, South of Scotland B.K.A.—Annual Honey Show in connection with the S. of S. Horticultural Society's show at Dumfries, nineteen classes for honey. Over fifty prizes. Entries close August 30. John Currie, Secretary, 7, Assembly-street, Dumfries.

September 4.—Herefordshire B.K.A. annual show and honey fair, at Hereford. Eight

classes for honey. Entries close August 30. Hon. Sec., Alfred Watkins, Imperial Mills, Hereford.

September 7.—Lancashire and Cheshire B.K.A., in connection with Bramhall and Woodford Horticultural Society. Annual show of bees and honey at Bramhall Hall. Open to district only. Schedules from Secretary, J. Bell, Davenport, Stockport.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

September 28. — Roxburghshire B.K.A. Annual Show in the Corn Exchange, Jedburgh. Numerous prizes. Entries close September 24. Thos. Clark, Secretary. Pleasants, Jedburgh.

October 8, 9, 10, and 11.—Dairy show at the Agricultural Hall, London. Liberal prizes in five classes for honey. Open to all. Entries close September 9. For schedules apply Wm. C. Young, sec. Dairy Farmers' Association, 12, Hanover-square, London.

October 19.—Lanarkshire B.K.A. annual show of honey and bee appliances (appliances open to all), in Public Hall, Larkhall. Also general meeting of members same day at 5 p.m. Entries close October 12. Schedules from John Stevenson, secretary, Merryton Braes, Larkhall, N.B.

DERBYSHIRE BEE-KEEPERS' ASSOCIATION

A Third Class Examination

WILL BE HELD AT

DERBY

On the Morning of September 12, 1895.

Members of the Derbyshire, Notts, or Leicestershire Assoc. wishing to present themselves as candidates are requested to send in their names to the Hon. Sec., F. WALKER, Cattle Market, Derby.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

BEE-MAN. (Belfast.) *Extracting Sections.*—Either "Louths" or the "Improved Guinea" extractor answer well for extracting sections.

J. COX.—Comb is affected with foul brood, but it does not strike us as a very bad case. We advise, however, your taking every precaution against infecting your other hives.

JOHN TAYLOR (Eastney). — *Sugar for Bee Food.*—Sugar sent is entirely unsuitable for making into syrup for bees. It is a coarse raw sugar (pure cane it may be) just the kind to induce dysentery in bees wintering on food prepared from it.

E. OLDHAM (Ashton-on-Mersey).—*Enlarging Brood-chambers.*—1. It is altogether too late to think of giving a body-box over brood-frames at this season. 2. Honey sent is from clover and various flowers. The flavour is very fair, colour good, but not bright. Without being classed very high, it is a nice honey for table use.

NOVICE (Halesowen, Birmingham). — *Queen Failing.*—If it is really the queen's second season, and she has ceased laying for so many weeks, there must be something radically wrong with her. The only thing to save the stock is re-queening.

G. F. TOWNSEND (Studley, R.S.O.).—*Pollen for Fermenting Mead.*—A piece of pollen the size of a hazel nut will start fermentation in a barrel of mead.

W. H.—Comb sent is badly affected with foul brood. Our correspondent sadly lacks knowledge of the disease or we should not have had to wash the envelope containing his note before it could be handled. To stick a letter on top of a slab of foully diseased comb is not nice to the receiver.

HUGH BONSER (Coatemere). — *Preserving Queens.*—1. Queens may be kept alive for many days by putting her—along with a dozen or more attendant bees—on to a combed section glassed on both sides. A small quantity of syrup poured into the cells will suffice for food, and the section only needs keeping in a warm place. 2. It is an ascertained scientific fact that drones bred from a virgin queen are capable of fertilising queens, but most bee-keepers prefer to have them mated with normal drones.

A. R. C. N. (Bantry).—*Uniting Driven Bees to Stocks in Frame-hives.*—Drive the bees from skep in usual way, and then sprinkle them with a little *very thin* syrup scented with peppermint. Set the skep with driven bees on a good-sized board, raising the front of skep on one side an inch or so. Brush off the bees from combs of frame-hive in front of skep, and sprinkle them with a little of the scented syrup as they run in. When both lots of bees are joined in the empty skep, throw the lot down on a platform fixed in front of frame-hive, the latter being raised in front to allow of free entrance.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FREEHOLD LAND, well sheltered, near Station, main London road, Rayleigh, 9 Acres, £270; Few plots, 40ft. frontage, 400 ft. deep, £20; 8 Acres, £250; 30 Acres, 2 cottages, out-buildings, &c., £17 per acre. 9 acres £145. Few second hand "Abbott's" or "Blow's" hives wanted.—Address, LAND, Myrtle Villa, Hornchurch. 1 8

FOR SALE. Stock of FOREIGN BEES (Carniolan ex "Holy Land") in Sandringham pattern Hive, this year's Queen, 32s. 6d. Two stocks blacks, in a "Wells" hive 50s. Super for above, 20 shallow frames with foundation, 7s. 6d. Stock of hybrids (good workers) 25s. Extractor for two frames (new last year) 15s. 6d. Six new Simmin's pattern rapid frame feeders (list 3s. 6d. each) 9s. Four Perfection feeders 4s. 6d. Super 21 sections with starters, 3s. Travelling swarm box or nuclei hive 2s. All in good condition. Accept part Exchange good Clover Honey.—ARTHUR COOPER, 71, High-street, Burton-on-Trent. 1 91

Editorial, Notices, &c.

THE COMING DAIRY SHOW.

As the entries close September 9 we appeal to bee-keepers throughout the kingdom to make the coming show the finest exhibit of British honey that has ever been collected at the Agricultural Hall.

After this issue of the JOURNAL there will only be one more number published in which to reiterate the appeal before the entries close. Those who are responsible for the success of the show have only the medium of our JOURNAL for "whipping-up" exhibits. Bee-keepers in the north and midlands usually show much more alacrity in responding to such calls. There is certainly more "go" in them than with the bee-keepers of the south. We felt somewhat ashamed of Kentish apathy last year, but we rely on their better response this season, and, indeed, from all the southern counties right away to Cornwall. Nor must we forget to appeal to our Scotch, Welsh, and Irish friends. Let them also make a note to send entries early. Schedules to be had from Mr. W. C. Young, British Dairy Farmers' Association, 12, Hanover-square, London. The Dairy Show is the finest possible opportunity for disposing of honey, and no good samples, if priced reasonably, need fail to find buyers. Secretaries of county associations will please render what assistance they can.

SHROPSHIRE B.K.A.

ANNUAL SHOW AT SHREWSBURY.

The twenty-first annual fete of the Shropshire Horticultural Society was held in "The Quarry," Shrewsbury, on August 22 and 23. The weather on both days being beautifully fine, the attendance of visitors may, we suppose, be counted as a record one. We were informed the gate receipts exceeded by £70 the highest takings ever before recorded for a first day. The attendance on the two days during which the show lasted exceeded 50,000, while the total receipts were no less than £2,000. Among the numerous popular attractions which go to make the "Shrewsbury Floral Fete" one of the best attended meetings of a like kind in the country, not the least, by a long way, is the exhibition and honey fair of the Shropshire Bee-Keepers' Association. Held in conjunction with so large a gathering, the beautiful weather on both days made up a complete success. Owing to the very moderate bee-season in Shropshire the entries were less than last year. But it was a big show notwithstanding, as attested by the fact that 2,600 lb. of honey was staged in competition. The schedule comprised some forty-three classes, twenty-six of which were for honey in its various forms, the remaining seventeen being for bees, hives, appliances, and miscellaneous items connected with bee-culture. The extent of the honey classes can be imagined when it is seen that exhibits of four and two dozen sections, and the same number of jars of liquid honey, are quite frequent in the schedule, the wonder being how numerous are the entries for each.

Several very fine honey trophies and collections of bee-flowers were staged, the 1st prize, "Trophy" of Mr. Tetley-Nickels being a most tastefully arranged one. Indeed, all the four trophies were good. Miss Eyton, hon. sec. of the S. B. K. A., and her coadjutors, laboured assiduously in arranging all the details of the extensive bee-department, and, as a result, everything went off smoothly and well. Indeed, nothing marred the pleasure of the occasion save the heat and crowds of visitors to the bees' tent, which made the time spent under canvas—especially on the second day—not a little trying.

An adjoining tent was occupied by Mr. W. P. Meadows, who, at intervals on both days, delivered interesting lectures on bees and bee-keeping to appreciative and numerous audiences. This latter tent was also utilized on the afternoon of the second day for the presentation of the prizes to the winners, who received their respective awards at the hands of Miss Eyton.

Messrs. W. Broughton Carr, Jesse Garratt, and E. J. Burtt officiated as judges, the first-named adjudicating in the classes for bees, hives, appliances, and miscellaneous items. Mr. Garratt taking the comb-honey classes, and Mr. Burtt those for extracted honey, which latter proved so heavy a task that Mr. Garratt assisted in completing the whole.

AWARDS:—

HONEY (open classes).

Twenty-four 1-lb. Sections.—1, S. Cartwright, Shawbury; 2nd, W. G. Preece, Shrewsbury.

Twelve 1-lb. Sections.—1st, J. Palmer, Ludlow; 2nd, A. Hamer, Llanarthney.

Twenty-four 1-lb. Jars Extracted Honey.—1st, S. Cartwright; 2nd, J. Carver, Wellington; h.c., J. Palmer.

Twelve 1-lb. Jars Extracted Honey.—1st, T. R. Horton, Much Wenlock; 2nd, Rev. F. J. Evans, Hargrave Vicarage, Chester.

Twenty-four 1-lb. Jars Granulated Honey.—1st, Not awarded; 2nd, T. R. Horton.

Collection of Extracted Honey from Different Sources.—1st, A. Beale, Meole Brace; 2nd, A. W. Rollins, Stourbridge.

Twelve 1-lb. Blow's Sections.—1st, Rev. H. Bryans, Malpas, Cheshire; 2nd, Miss S. Ward, Hadnall Hall, Salop.

Twelve 1-lb. Jars Extracted Honey in Blow's Jars.—1st, J. Carver; 2nd, W. Blower, Shrewsbury.

Forty-eight 1-lb. Sections (members only).—1st, J. Carver; 2nd, S. Cartwright.

Twelve 1-lb. Sections.—1st. Rev. H. M. Bryans; 2nd, W. Boughton Knight, Bromfield.

Single 1-*lb. Sections.*—1st, P. Jones ; 2nd, A. Hamer.

Forty-eight 1-*lb. Jars Extracted Honey.*—1st, S. Cartwright ; 2nd, B. G. Brocklehurst, Ludlow.

Twenty-four 1-*lb. Jars Extracted Honey.*—1st, J. Carver ; 2nd, T. R. Horton.

Twenty-four 1-*lb. Jars Dark Extracted Honey.*—1st, B. G. Brocklehurst ; 2nd, A. Beale.

Novelty in Honey or Wax.—1st, P. Scott, Broseley.

ARTISANS' CLASSES.

Twenty-four 1-*lb. Sections.*—1st, —Pritchard, Bucknell ; 2nd, P. Jones.

Twelve 1-*lb. Sections.*—1st, E. Brookfield, Middle ; 2nd, P. Jones.

Twenty-four 1-*lb. Jars Extracted Honey.*—1st, T. C. Clark, Bridgnorth ; 2nd, S. Bremmell, Overley.

COTTAGERS ONLY.

Twelve 1-*lb. Sections.*—1st, J. Hammond ; 2nd, J. Lewis.

Twelve 1-*lb. Jars Extracted Honey.*—1st, J. Lewis ; 2nd, G. Lloyd.

Six 1-*lb. Sections.*—1st, J. Walford, Grinshill ; 2nd, G. Croxton, Yorton.

Six 1-*lb. Jars Extracted Honey.*—1st, G. Lloyd ; 2nd, J. Lewis ; 3rd, Mrs. A. Ward.

Honey Cake.—1st, W. Blower.

One-lb. Jar Extracted Honey.—1st, J. Lewis ; 2nd, S. Bremmell.

Single 1-*lb. Section.*—1st J. Walford ; 2nd, J. Hammonds.

Collection of Bee Flowers.—1st, G. Lloyd.

Honey Trophy, not over 60 *lb.* (open to all).—1st, J. Tetley-Nickels, Day House, Shrewsbury ; 2nd, W. P. Meadows, Syston ; 3rd, A. Beale.

HIVES AND APPLIANCES.

Best Complete Hive (*cost not over* 15*s.*).—1st, W. P. Meadows ; 2nd, — Oliver.

Best Complete Hive.—1st, W. P. Meadows ; 2nd, J. Carver ; h.c., T. Lanaway & Sons.

Collection of Bee Appliances.—1st, W. P. Meadows ; 2nd, T. Whittingham.

New Invention (*useful to Bee-Keepers*).—1st, W. P. Meadows ; h.c., Rev. H. Bryans and W. P. Meadows.

1-*lb. Brood Foundation.*—1st, A. Beale ; h.c., T. Whittingham.

1-*lb. Super Foundation.*—1st, T. Lanaway & Sons ; h.c., T. Whittingham.

Two Samples Soft Candy.—1st, J. Carver ; h.c., Lanaway & Sons.

Honey Beverage.—1st, Rev. G. W. Bancks, Dartford.

Fruit Preserved in Honey.—1st, Mrs. Lloyd, Overley.

Honey Cake.—1st, T. Whittingham.

2 *lb. Beeswax* (Salop only).—1st, J. Carver ; 2nd, A. Beale ; h.c., P. Scott ; c., T. R. Horton.

Honey Vinegar.—1st, Rev. G. W. Bancks ; h.c., T. Whittingham.

Collection of Bee Flowers.—1st, A. Beale ; 2nd, G. Lloyd.

Best Stock of Bees (Salop only).—1st, W. G. Preece ; 2nd, J. Carver.

In addition to the above awards, an illuminated certificate was offered for the greatest number of first prizes for honey exhibits, but a difficulty arose in consequence of J. Carver, Wellington, and Cartwright, of Shawbury, being equally successful both as regards first and second awards. Eventually, it was arranged that the certificate be presented to Carver, and that an extra award, a silver medal, be given to the other exhibitor.

KENT BEE-KEEPERS' ASSOCIATION.

SHOW AT SHEPHERDSWELL.

I hope you will afford me a little space to record my impressions of a pleasant two days' visit to Shepherdswell Horticultural Show on August 14 and 15. The Kent B.K.A. were invited for the first time there to organise a Bee and Honey show at this annual floral fête with manipulations in the bee tent. The entries were numerous and staged in a handsome marquee. Mr. J. M. Hooker acted as judge and was delighted with the exhibits generally. Mr. G. J. Wright (Ramsgate Local Hon. Sec. K.B.K.A.) rendered much assistance on both days. Two years ago there was not a modern frame-hive in the place, but through the County Council lectures Shepherdswell is now likely to become a chief honey centre of East Kent. The district is also in advance of many parts as regards its cottage horticulture, owing in no small degree to the energy of the Horticultural Society's hon. secretary (Mr. J. Jacob) who is a bee-keeper and desires to see apiculture a prominent feature at all horticultural shows. The fête was held in the grounds of Mr. W. Smith, J.P., who is a successful bee-keeper, doing much to encourage honey production in the district. His place adjoins the railway station and was well illuminated at comparatively small cost by hundreds of Hurricane lamps. The honey tent was also well lit up by two big paraffin lamps with shades to throw the light on the exhibits. Numbers of labourers from far and near with their wives were thus enabled to profit by the occasion who would otherwise have been debarred from seeing what can be accomplished in the modern hive. Honey is seen to fine advantage in a well-lighted tent, the big marquee looking very picturesque in its transparency among the overhanging foliage of the trees. County B.K.A. secretaries should make a note of this and endeavour to keep the honey tent open up to ten o'clock at night. A long frame with the words "BEES, HIVES, HONEY" in large white paper letters pasted on Turkey red ground, 12 ft. long, hinged in centre so as to fold over for convenient carriage, met the eye of visitors as they entered the show. Lighting up the tent so as to make the bees and honey visible after dark seems to me well worthy of attention. I suppose this is always done at the big honey "fair" at Shrewsbury.

I append list of awards.—A MEMBER OF THE K.B.K.A.

PRIZE LIST.

Observatory Hive.—1st, E. Drinqbier, Dover; 2nd, Green & Sons, Rainham.

Twelve 1-lb. Sections. — 1st, Agricultural College, Wye ; 2nd, G. Bower, Betteshanger ; 3rd, E. D. Till, Eynsford ; h.c., Rev. F. C. Villiers and Horticultural College, Swanley, E. Drinqbier and F. Langley, Sevenoaks.

Six 1-lb. Sections.—1st, Mrs. Curtis, Kearsney Abbey ; 2nd, W. F. Hopper, Eythorne ; 3rd, Miss Wakeling, Shepherdswell.

Twelve 1-lb. Jars Extracted Honey.—1st, E. D. Till ; 2nd, Miss Wakeling ; 3rd, E. Drinqbier ; h.c., H. Dobell and Agricultural College, Wye.

Six 1-lb. Glasses.—1st, F. Langley ; 2nd, Miss D'Acth, Canterbury ; 3rd, Mrs. Curtis ; c., W. F. Hopper.

Three Shallow Frames.—1st, Horticultural College.

Exhibit of Honey not over 25 lb.—(East Kent only).—1st, Mrs. Curtis ; 2nd, W. Smith, Shepherdswell ; 3rd, G. Bowers.

Trophy of Honey not exceeding 100 lb.—1st, W. Smith ; 2nd, Green & Sons ; 3rd, E. Drinqbier.

Wax.—1st, Mrs. Curtis ; 2nd, Miss Gosby, Dover ; 3rd, W. Smith.

COTTAGERS CLASSES.

Six 1-lb. Sections.—1st, G. Bowers ; 2nd, F. S. Bensted, Newnham ; equal 3rd, J. Friend, Dover, and L. Keen, Betteshanger.

Six 1-lb. Jars Extracted Honey.—1st, J. Friend ; 2nd, L. Keen ; 3rd, G. Bowers.

Super.—1st, Miss Gosby ; 3rd, J. Fox, Shepherdswell.

GOOLE AND DISTRICT B.K.A.

The annual show of this society was held in the Victoria Pleasure Grounds, Goole, on August 15, in connection with that of the Agricultural and Horticultural Society, the weather being beautifully fine, and a very large number of visitors were present during the day.

The bee and honey section was under the charge of Mr. A. Woodhead, hon. sec. of the G.B.K.A., assisted by Messrs. W. T. Lumley, C. Douglas, G. Remmer, W. Chester, and E. J. Giddy. The honey was staged in the fruit and vegetable tent, and made a grand display.

Mr. J. H. Howard, Holme, Peterborough, officiated as judge, and during the afternoon delivered lectures on the management of bees, &c., to large and interested audiences.

The following are the awards :—

Observatory Hive. — 1st, E. J. Giddy, Welton, Brough ; 2nd, W. Chester, Goole.

Six 1-lb. Sections of Comb Honey.—1st, R. Brown, Somersham ; 2nd, W. H. Woods, St. Ives ; h.c., E. J. Giddy ; c., Miss M. J. Ducker, North Ferriby.

Twelve 1-lb. Jars Extracted Honey.—1st, W. H. Woods ; 2nd, R. Brown.

Most Interesting Exhibit Connected with Bee Culture.—1st, A. Woodhead, Goole.

Two Frames of Comb Honey.—1st, R. Brown ; 2nd, W. H. Calvert, Swanland, Brough.

Classes open only to members of the Goole and District B.K.A. :—

Six 1-lb. Sections (Members only).—1st, G. Remmer, Knedlington ; 2nd, W. Chester.

Six 1-lb. Jars Extracted Honey.—1st, W. Chester ; 2nd, E. Wainman, Howden.

Best Super.—1st, E. Wainman ; 2nd, W. Chester.

Two 1-lb. Sections, and two 1-lb. Jars Extracted Honey.—1st, G. Remmer ; 2nd, E. Wainman.

Three 1-lb. Jars Granulated Honey.—1st, Dr. Arbuckle, Thorne ; 2nd, G. Oakley, Greenoak, Eastrington ; commended, Dr. Arbuckle.—(*Communicated.*)

LAUDERDALE B.K.A.

The annual show of this association was held on August 10 in conjunction with the show of the Lauderdale Agricultural Society within the policies of Thirlestane Castle. Messrs. R. Greig, secretary of the Berwick B.K.A., and R. Douglas, Greenlaw, officiated as judges. The display of honey was very satisfactory, although, when contrasted with last season's, much smaller and more highly coloured.

Amongst the exhibits may be mentioned a handsome and well-finished design in comb by Mr. Geo. Moffat.

The Silver Cup, given by the Association, for the best Ten 1 lb. Sections, was won by Mr. Alex. Lothian. The prizes were awarded as follows :—

CLASS I. (Open).

Ten 1-lb. Sections.—1st, Alex. Lothian, Blainslie ; 2nd, R. & G. Robson, Lauder ; 3rd, J. Buckham, Lauder.

Six 1-lb. Sections.—1st, David Pringle, Chapel ; 2nd, Alex. Lothian ; 3rd, R. & G. Robson.

Six lb. Extracted Honey.—1st, R. & G. Robson ; 2nd, John Turnbull, Lauder ; 3rd, W. Murray, Lauder.

Display of Honey.—1st, J. Turnbull ; 2nd, R. & G. Robson ; 3rd, Wm. Murray ; 4th, the Countess of Lauderdale.

Non-Sectional Super.—1st, Geo. Moffat, Stockbridge Toll-house, Gordon ; 2nd, J. Halliday, West Mains, Lauder ; 3rd, R. & G. Robson.

Beeswax.—1st, G. Robson ; 2nd, R. Robson ; 3rd, R. Bruce, Lauder.

CLASS II. (Beginners only).

Five 1-lb. Sections. — 1st, Wm. Scott, Lauder ; 2nd, J. Houston, Thirlestane Castle Gardens ; 3rd, Mrs. Turner, Lauder.

Three 1-lb. Sections.—1st, J. Houston ; 2nd, Mrs. Turner ; 3rd, R. Bruce.

3-*lb. Extracted Honey.*—1st, J. Houston; 2nd, D. Hutchinson, Lauder; 3rd, R. Bruce. —(*Communicated.*)

BERKS BEE-KEEPERS' ASSOCIATION.

The Windsor district of the Berks Association are to be complimented on having held a most successful show of honey and appliances at Ives-place, Maidenhead, on August 15, in conjunction with the Maidenhead Horticultural Society. Favoured with splendid weather, Mr. W. S. Darby, hon. sec., assisted by the committee, Messrs. Attfield, Cartland, W. Carter, and Stoneham, ably carried out the arrangements. 720 lb. weight of honey was staged, of a very superior quality. The exhibits were put up in good style, with the effective county label attached, and customers were readily found, the greater part being sold on the spot, to the satisfaction of the exhibitors. Rev. R. Errington and Rev. S. R. Wilkinson were the judges, and made the following awards:—

OPEN CLASSES.

Collection of Hives and Appliances.—1st, W. B. Webster.

Most Complete Hive, price not over 12*s.* 6*d.*—1st, W. B. Webster; 2nd, H. W. Seymour.

Rapid Feeder.—1st, W. B. Webster.

Observatory Hive.—1st, Geo. Head.

Exhibit of Bee Flora.—1st, H. Attfield.

Twelve 1-*lb. Sections.*—1st, W. Woodley; 2nd, A. Canning.

Six 1-*lb. Sections.*—1st, A. Canning; 2nd, W. Woodley.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. Woodley; 2nd, W. H. Seymour.

Six 1-*lb. Jars Extracted Honey.*—1st, H. W. Seymour; 2nd, W. Woodley.

MEMBERS ONLY.

Exhibit of Comb and Extracted Honey, weight 40 *lb.*—1st, W. Woodley; 2nd, H. W. Seymour.

Twelve 1-*lb. Sections (in Blow's Sections).*—1st, A. Canning.

Six 1-*lb. Jars Extracted Honey (in Blow's Jars).*—1st, A. Canning.

WINDSOR DISTRICT ONLY.

Six 1-*lb. Sections.*—1st, Mark Pottinger; 2nd, Albert Head.

Six 1-*lb. Jars Extracted Honey.*—1st, Mark Pottinger; 2nd, A. H. Miller.

THE BADCOCK FUND.

Referring again to the above, and the promise of two gentlemen to give 10*s.* each if eight others would contribute a like sum, in order to add another £5 to the amount to be given to the widow of the late Mr. Badcock, we have pleasure in saying that eight of the ten donors required have responded, so that only two more half-sovereigns are needed to secure the extra £5 for the very praiseworthy object to which it is to be devoted. Shall we be too sanguine in expressing a confident hope that in our next issue the amount will be made up?

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

"NOTES BY THE WAY."

[2157.] The show of the "Windsor District" of the Berks B.K.A. was held at Maidenhead, on Thursday, 22nd inst., and proved a rendezvous of bee-keepers, both new and old exhibitors. Messrs. Martin and Lacey I had not met since 1880 or 1881, were there (visiting) to renew old acquaintances, also Mr. J. Walton, Leamington, Messrs. Darby, Cartland, Carter, A. D. Woodley, W. B. Webster, Turner (Newbury), Seymour, and others. The hours passed pleasantly in "talk on bees." Mr. Martin was to be commiserated on his losses in the past with foul brood. I think he told us he had lost altogether about 140 stocks. This, it need hardly be said, is a very serious matter to a working man, and the fact that he still remains a bee-keeper speaks well for his love for the craft and the persistency with which an Englishman sticks to his guns. But "hope that springs eternal in the human breast" animates friend Martin, and he believes he has found the right treatment at last, but does not wish the secret divulged at present, until he is able to cry "eureka" emphatically.

Mr. Webster showed us his "bee-bag," in which he carries home his driven bees—a capital "dodge" it is too for a cycle journey. He also showed us the "Hole" swarm-catcher. This appliance I would improve by making the swarm-receiving compartment long enough and deep enough to take standard frames, so that the bees when hived could start work at once; an improvement especially useful in case of out apiaries—which cannot be visited every day—or when a bee-keeper is not able to get to his bees till late on the day of swarming. He would then find his swarm hived and honey stored in the combs—if climatic conditions conduced to that end—with the bees and frames in best of condition for transferring to the permanent hive. Another interesting object on Mr. Webster's stand was a model of foulbrood—a piece of comb, 4 to 5 in., in which Mr.

Webster had manipulated wax with remarkable fidelity to the arch-pest of bee-keeping. There were cells capped, and sunken cells perforated in capping, and the foul, stringy, corrupted brood drawn out and held on the end of a lucifer match. Without wishing to give a free advertisement to friend Webster, I do think that experts and lecturers who are dealing with the subject would do well to procure a similar model from him. They will find it far more realistic than a photograph or a lantern slide, and with the thing illustrated on a piece of brood-comb everyone who saw it once would remember it ever afterwards.

The most profitable size I can suggest for a fairly good honey district is a hive of nine frames. I have again secured the largest "takes" from hives worked with nine frames standard size. I used in my novitiate days to work with ten to twelve frames, but experience (that best of teachers) has proven for my district and comb honey that a nine-frame brood nest is the best size. My aim is to have the hive just at boiling-over point, yet, by judicious management, to keep them at work straight off without much swarming. We often hear or see in print that a queen will deposit 3,000 eggs per day; but to have room for that number, or even 2,000 per day will require a hive capacity of some twelve frames reckoning 4,000 cells per frame. I have just counted a sheet of stock foundation, and find one side contains 2,646 cell shapes, Now, we should rarely get 2,000 out of the lot full of brood at one time, even in a frame practically full of brood, and the two outside combs in a twelve-frame hive ought to be at least three-quarters full of honey to carry the colony over a break in the weather during the honey harvest; otherwise the sections would be like those of a bee-keeper who wrote me a week or two back, asking "when he ought to take his sections off, as, on looking in a day or two previous, they (the sections) were so many empty combs, although the hive seemed wonderfully full of bees." The bees were evidently a prolific strain, capable by late breeding in using up about all they could gather, and then depending on the bee-keeper for help to tide over the winter months. While on the subject of prolificness of queens, may I ask if it is a demonstrated fact what constitutes a bee's egg? We know—or think we know—that when a queen emerges from the cell she does not at that moment contain all the thousands of eggs that it will be possible for her to deposit during the following three or more years of her life; then, if not in the ovaries, where are the eggs of the future? Are they produced by food?—that is to say, do eggs consist of honey, pollen, &c, partly digested by the worker bees; or are they produced by the internal economy of the mother-bee from food taken by herself? Who will make these matters plain to us?—W. WOODLEY, *Beedon, Newbury.*

[In reply to our correspondent's closing words, it may be said the germ of every egg the queen produces during life is contained in her ovary when she emerges from the cell; the subsequent development being simply a matter of time or of natural growth. So far, however, as the actual *bulk* of the egg, which is analogous to the yolk and white of a bird's egg, it does not "consist of honey, pollen," &c., but like any other portion of the body is certainly produced from the food taken by the queen-bee. The question is fully dealt with in "The Honey Bee," by T. W. Cowan, in the chapter on Queen Organs, and on p. 163 of same work.—EDS.]

DO BEES CARRY EGGS?

[2158.] Mr. Brice, in his "Jottings" (2123, p. 292), refers to myself in connection with this interesting subject, and, with your permission, I would like to detail the facts of the case, which to me are so full of interest. Before doing so, however, let me correct an error Mr. B. makes in referring to my expert's certificate. At present I am only a second-class expert, not "first," as stated. I may say that all my observations and examinations have been carefully made, and, being noted at the time, the details now given I know to be correct. I received from Mr. Brice the queen referred to, and a few workers safely in one of his own cages, on July 12 last. I made the stock queenless a few days beforehand, and had carefully examined the hive on the previous day. I also very closely inspected every frame about six o'clock on the evening the queen arrived, just before introducing her, and there was no sign of eggs, to say nothing of unsealed brood in the hive. I followed the instructions sent with the queen, pressing the cage well into the comb and honey, I then left the hive alone till Monday the 15th, being of opinion that many failures in queen-introduction are due to too much fussy manipulation. However, I opened the hive on the date named and found the queen was still imprisoned, the bees not having liberated her by eating their way into the cage, allowing the queen to come out; I then took out the frame next to the one on which the queen was caged, and found a few eggs deposited in worker cells. This made me wonder if a fertile worker was present in the hive. However, I let matters remain as they were and did not liberate the queen, nor did I again examine till Wednesday morning the 17th, when I found the queen still caged. On examining the comb as before I found quite a number of cells (nearly 200) with young brood a few hours old, and eggs, not deposited here and there all over a comb as a fertile worker usually deposits them, but quite in regular manner, in rows (on one comb only) four cells deep, having eggs a few cases near the centre of the patch five cells deep, and only in one case did I see more than one

egg in a cell. I then released the queen and she was at once joyfully accepted; moreover, she is now laying well after having been caged nearly five days. Some may say, "too long." Well, perhaps under ordinary circumstances it would have, but these were not ordinary circumstances, and therefore I was in no hurry, if I could by careful observation learn something more about the bees. The three questions raised by Mr. Brice are so satisfactorily answered by him, that I need say nothing respecting them, save that his conclusions entirely coincide with my own; but someone may ask:—"What has been the result?" and though as Mr. W. Woodley points out (2,130, p. 203), it is one of those inexplicable things which occasionally happens. The important fact, however, remains, that the eggs deposited while the queen was caged have produced both workers and drones, and the latter were much lighter and brighter in colour than any in my apiary, my bees being all blacks. The fact of workers and drones of a distinctly *lighter* colour to any of my bees resulting from the eggs deposited in the cells as noted above, furnishes a complete corroboration of the theory that the eggs were laid by the queen while caged, and were carried by the bees into the cells in which the workers and drones mentioned have been reared.

But for trespassing too much on your space, I could give the days and dates of my notes and observations, but probably sufficient has been said on the point, except to add how pleasing it would be if some of our scientific bee men would give us their opinion on this, to me, interesting part of our study.—PETER SCATTERGOOD, *Stapleford, Notts, August* 19.

[2159.] It is always a great pleasure to read the letters of my friend Mr. Brice in the B.J., as they evince an enthusiastic desire to search out for himself all that relates to the economy of the bee, more especially the queen. His articles are particularly interesting and useful, and are not unfrequently reproduced in the bee-papers of Canada and the United States of America.

In his letter (2151, p. 334), in his desire to prove that "bees do carry eggs," he, however, has come to this conclusion entirely on false premises. He says:—"The drones, however, take twenty-eight days to develop, yet on the twenty-seventh day they began to appear." My experience is that drones usually come forth from the cells twenty-four days from the laying of the eggs, and this is the time given by all the text-books on the subject. Thus, there is nothing to be surprised at in the drones referred to appearing on the twenty-seventh day from the arrival of the queen, who, if "kept caged in the hive" three days, had still twenty-four days for the development of the drone. I think, therefore, we cannot come to the inevitable conclusion that the eggs referred "to were laid by the queen while in durance." The colour of the drones, no doubt, points to this particular queen having laid the eggs that produced them, but can in no way prove "that bees do under certain circumstances remove eggs for their own purposes."—JOHN M. HOOKER, 9, *Beaufort-gardens, S.E., August* 26.

[2160.] Mr. Brice, in your last issue (2,151, p. 333) appears to have based his argument in favour of the theory that bees do carry eggs in this particular instance on a misapprehension. In reading his interesting article, I was surprised to find him stating positively that the drone takes twenty-eight days to develop. I at once turned to all the authorities I had by me, and I can find none to support him; all agree that twenty-four days is the normal time, which, if correct, Mr. Brice's interesting facts fall to the ground, as there was time for his queen to have laid drone eggs after liberation and for them to have arrived at the stage of development to which he refers. I fully believe that bees do carry eggs, but we are still waiting positive proof that they do so.—A. D. WOODLEY, *August* 24.

[2161.] Referring to my "Bee Jottings" last week (2151, p. 333), I see I made a stupid blunder in stating that "drones take twenty-eight days to develop." It should, of course, have been twenty-four days. I send on this at once, and hope it will be in time for this week's JOURNAL.—H. W. BRICE.

[Feeling that some share of blame might attach to ourselves in allowing so obvious a "slip" as the above to pass into print without pointing it out to the writer, we desire to explain that, owing to our having to leave town for the Shrewsbury Show early on the 20th inst. the proof of Mr. Brice's article did not come under our notice, as under ordinary circumstances it would have done.—EDS.]

CLEARING SUPERS.

[2162.] Much seems to be written to your journal about clearing supers, and the use of super-clearers. The latter is no doubt a useful thing to have, but everybody cannot afford it. I never have any trouble in clearing my supers of bees. My "clearer" is an empty hive, or box with a hole in it and lid attached. When I want to take off a super I have an empty hive—if I have got one—with a couple of empty frames in to carry the super. I raise the quilt and blow in a little smoke to drive down the bees a little, then loosen the super and lift it on to the two bars, care being taken not to crush any bees. I then replace quilts of the hive from which this super is removed and carry the empty hive and super to the nearest shady tree; put the cover on and

leave. In about three-quarters of an hour the bees have all left and joined the stock, and all is quiet. I took one off last week, and when I returned to look, I only found two bees in the super. I don't know if there is any danger of carrying the queen away like this, but I have had no misfortune up to now.

Bees have done fairly well here this season, and there is now a good sprinkling of white clover in the fields.—W. BURGESS, *Tewkesbury, August* 20.

A BACKSLIDER'S DOUBTS.

[2163.] In studying physiology or pathology we use experimental science a good deal in forming conclusions, and give in many cases reference to the steps taken in this or that series of experiments. 1. In the study of bees it strikes me that the dicta promulgated in our BEE JOURNAL would be a good deal more convincing if the answers to many of the more debateable points were backed up with references; for instance, I would ask the editors what precise experiments they have read of, or tried, proving that brood foundation, containing 40 or 50 per cent. of hard paraffin—a tasteless, odourless, pearly white substance—has frequently broken down if wired, and if the hive is stationary—*i.e.*, not carted to the heather, or otherwise harshly handled.

2. Again, I should like data proving that in a series of cases, healthy bees were given dysentery, totally through feeding (say August driven bees) on the "good old brown Demerara" which my good old grandmother fed her bees with without getting the said flux.

To me these are not idle suppositious queries, because I have just bought 4 cwt. of moist brown Demerara (guaranteed cane) for my bees at 10s. per cwt. plus carriage, and unless I see a strong proof, backed up on experience of a series of cases, I do not consider that I should hesitate to use it; I enclose you a sample.

Pray excuse my pertinacity, and slay me for it if you will, only let references and statistics do the fell deed.—BACKSLIDER,' *Westmorland, August* 24, 1895.

[It is, of course, perfectly competent for correspondents to suggest what they consider to be improvements in the method of conducting the editorial department of this journal, but may *we* not venture to hope that the present editors have not occupied their positions for all these years without acquiring an amount of experience on the subject quite beyond the reach of any outsider. Anyway, the knowledge gained leaves us in no doubt whatever that to give chapter and verse of reference, together with the "why and wherefore" of every "reply" to queries would not only entail an intolerable and unnecessary amount of labour, but would be extremely irksome to 90 per cent. of our readers. Again, it should be borne in mind that the B.J. consists of but sixteen pages weekly, and therefore the space allotted to "text" is utterly inadequate for the purpose suggested by our correspondent. Besides—and while desirous of helping readers in every possible way—we must assume that ascertained and proved facts will be accepted as such, without being needlessly repeated. Correspondents seeking information on given points should also, in common fairness, consult the indexes of past volumes or refer to contents of back numbers in their possession, and not seek to inflict more repetition on their fellow readers than is necessary. We also somewhat confidently hope that the long practical experience in managing bees enjoyed by both editors will have secured for them a certain amount of confidence on the part of readers which they trust is not often misplaced.

The melting point of paraffin is 112 deg. Fahr., while that of bees-wax is 145 deg. to 150 deg. Fahr. This is why foundation adulterated with paraffin stretches, and sometimes even breaks down altogether in hot weather, the entire mass of comb, honey, and brood falling down in a mass of irreparable ruin.

Regarding the second query put by "Backslider," we may say that the sample of sugar sent is, we think, known as Demerara "syrups," sold chiefly to refiners. For the rest, if our correspondent properly chooses to follow the good example set by his grandmother or any one else in feeding his bees on raw sugar, we see no reason either for our objecting to his doing so, or for occupying time and space in quoting cases to prove why he should not use it.—EDS.]

SURREY BEE-KEEPERS' ASSOCIATION.

[2164.] I am not surprised at your correspondent, Mr. H. W. Brice (2138, p. 313), desiring to rouse our Association from the lethargy into which it has of late fallen. I have known Captain Campbell for many years, and he has no doubt done considerable service to bee-keepers in the country; but seeing how urgently a younger and more active hon. secretary is needed, I venture to suggest that we should invite Mr. J. W. Jacomb-Hood, to undertake the secretaryship. With that gentleman's acceptance of office I feel certain the Association would in a few months double its membership. Not only so, but with an energetic secretary who could do something towards providing a market for the honey produced by members, and especially of cottagers, much good would be done. This, and the holding of an annual show, is the only way to bring it before the public. I know a great many bee-keepers who would like to join the Association if they could see some tangible result for their subscriptions.—J. GREENHILL, *Wimbledon, August* 21.

Queries and Replies.

[1349]—*Wax Moth.—Chloroforming Bees*—1. May I ask you for a short description of the wax moth in our JOURNAL? Three varieties of moths frequent the vicinity of my hives, viz., (*a*) a mottled-winged pale-brown moth smaller than (*b*); (*b*) a yellow-winged moth spotted black; (*c*) a white moth, midway in size between (*a*) and (*b*). 2. Referring to chloroforming bees, I am experimenting with this anæsthetic, and should like to know of former experiments with a view to producing anæsthesia of a stock of bees for three or four minutes; the method most practicable; and if in the author's experience he has ever found that any anæsthetic administered has caused the queen to become sterile or impaired her productive power?—AJAX, *Westmoreland.*

REPLY.—1. Dr. Bevan, in his work on the Honey Bee, quotes a well-known naturalist's description of the wax-moth (*Tinea mellonella*) as under:—"Mr. Espinasse says that this is the smallest of the genus, and it is of a whitish-brown colour. The butterfly usually appears about weak hives in April, and may be seen till the end of October. This insect is remarkably active in its movements; and if the approach to the hives be observed of a moonlight evening, the moths will be found flying, or running round the hives, watching an opportunity to enter; whilst the bees that have to guard the entrances against their intrusion, will be seen acting as vigilant sentinels, performing continual rounds near this important post, extending their antennæ to the utmost, and moving them to the right and to the left alternately. Woe to the unfortunate moth that comes within their reach!" 2. Among repeated references to the use of chloroform for stupifying bees we may mention the very full particulars given in our issue of August 26, vol. xiv., p. 367. As to its effect on queen life, those who have used chloroform have found no ill effects from it in the direction mentioned, if not overdone. For ourselves, and in common with all practical bee-keepers, we find the smoker or the carbolised cloth so completely effectual in subduing bees that we should never think of using anæsthetics for the purpose.

[1350.] *Hot Lime-wash for Disinfecting Hives.*—1. Have you any personal experience or have heard of lime being used as a coating for the inside of hives. My enquiry, of course, refers to the disinfecting properties of lime. I should think, if the bees don't object to it, would be a capital thing to use. I have foul brood in several of my hives and have destroyed four stocks already. 2. If I put two stocks together now, would the bees draw out foundation this time of the year?—ENQUIRER, *Swansea, August* 22.

REPLY.—1. We know from personal experience that hot lime-wash is an excellent thing to use for the purpose stated. And when well dried before putting bees into hives so treated the bees don't object to it at all. 2. Bees will not draw out foundation at all nicely at this late season unless crowded closely on to just as many sheets as they will cover thickly, and fed well.

[1351.]—*Preparing Bees for Winter.*—Will you kindly say:—1. Whether, in wintering bees, entirely empty frames, alternated with the stored ones, are advantageous or disadvantageous? 2. If a slab of candy, covering the whole of the frames, is the best position for candy in packing down for winter? 3. Whether porous or non-porous quilts are the best for wintering? 4. Whether another body box (9 in. deep) is too much space to give under frames and cluster for wintering? 5. If 9 in. are too much, would 6 in. be too much?—A. BRAYSHAW, *Northants, August* 22.

REPLY.—1. Disadvantageous. 2. The "slab" of candy should be of such a size as to allow of coverings to frames being neatly packed down on all sides to prevent the escape of heat from hive. 3. This is entirely a matter of preference and the system of ventilation adopted. 4. We prefer an "eke" 3 in. high for giving space below frames in winter, but you might give 6 in. without harm.

REVIEWS OF FOREIGN BEE PAPERS.

BY J. DENNLER.

Remedy for Bee Stings.—A person was stung by a bee close to the right eye. The sting was removed and eau-de-vie (alchohol) will do applied to the spot, which was afterwards powdered with violet powder. This occupied a few seconds, and all pain was at once removed, and there was no swelling.

Introduction of Queens.—M. Froissard introduces his queens to queenless stocks in the following manner:—The bees are first smoked, then two or three combs with bees are removed, the bees are then brushed off on the alighting board of the same hive and sprayed with scented syrup, the queen being dipped in the same liquid. She is then placed amongst the sprayed bees with which she enters the hive.

Getting rid of Ants.—M. St. Pohl has a very simple method for getting rid of ants. He introduces a few spoonfuls of powdered alum in the cracks of the floor, and the ants are not long in leaving. With a quill pen this powder can be introduced into the smallest crack.

Etude complète de l'Essaimage. — This is a treatise on swarming, followed by re-

queening hives, transposing them in summer, by Nicolas Mercier, Apicultural Lecturer of the Belgian Government. Sivry.

Der Lehrmeister in der Bienenzucht. By Sauter & Herrgen. This treats of the relation of the schoolmaster to bee-keeping, and is written for the members of the Society of the Palatinate by this society. It is a volume of 184 pages. Price 60 pfennigs.

Badische Imkerschule. By J. M. Roth, Editor of the *Bee Bulletin* of the Grand Duchy of Baden. It is designed as an assistant and guide to instruction in bee-keeping by lectures, as well as a handbook of national bee-keeping. The volume contains 118 pages and is illustrated. Published by F. F. Reiff at Karlsruhe.

Künstliche Bienenverhnungen. By P. Warnstorf. This book contains descriptions of the essential requirements in the construction of hives, and the rules for their management are systematically demonstrated. It is illustrated with 28 engravings, and can be had of the author at Buslar. Price 80 pfnnigs.

Ungarische Biene. Editor, Fr. Kühne.—In 1894 there were in Hungary 522,002 hives of bees, of which 131,031 were on the movable comb system, and 390,971 with fixed combs. The amount of honey harvested is estimated at 22,300 cwt., and the amount of wax at 246,743 cwt.

Pfälzer Bienenzucht. Editor, M. Reidenbach, gives a recipe for easily separating comb foundation from the press in its manufacture. It consists in moistening the press with a liquid composed of 1 part honey, 2 parts of water, and 3 parts of pure spirits of wine. This recipe should not be forgotten if good foundation is desired.

Bee Shows to Come.

August 30.—At Abington, in connection with the Abington Flower Show. First Annual Show of the Upper Clydesdale B.K.A.

August 31.—Manchester and District B.K.A. at Worsley; in connection with Worsley Horticultural and Agricultural Show. Six classes for bees, hives, and honey.

September 3 and 4, South of Scotland B.K.A.—Annual Honey Show in connection with the S. of S. Horticultural Society's show at Dumfries, nineteen classes for honey. Over fifty prizes. Entries close August 30. John Currie, Secretary, 7, Assembly-street, Dumfries.

September 4.—Herefordshire B.K.A. annual show and honey fair, at Hereford. Eight classes for honey. Entries close August 30. Hon. Sec., Alfred Watkins, Imperial Mills, Hereford.

September 5. — North Norfolk B.K.A. annual show in connection with the Holt Flower Show, to be held in the grounds of Brinton Hall.

September 7.—Lancashire and Cheshire B.K.A., in connection with Bramhall and Woodford Horticultural Society. Annual show of bees and honey at Bramhall Hall. Open to district only. Schedules from Secretary, J. Bell, Davenport, Stockport.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries close August 31. F. Walker, hon. sec., Cattle Market, Derby.

September 28. — Roxburghshire B.K.A. Annual Show in the Corn Exchange, Jedburgh. Numerous prizes. Entries close September 24. Thos. Clark, Secretary. Pleasants, Jedburgh.

October 8, 9, 10, and 11.—Dairy show at the Agricultural Hall, London. Liberal prizes in five classes for honey. Open to all. Entries close September 9. For schedules apply Wm. C. Young, sec. Dairy Farmers' Association, 12, Hanover-square, London.

October 19.—Lanarkshire B.K.A. annual show of honey and bee appliances (appliances open to all), in Public Hall, Larkhall. Also general meeting of members same day at 5 p.m. Entries close October 12. Schedules from John Stevenson, secretary, Merryton Braes, Larkhall, N.B.

DERBYSHIRE BEE-KEEPERS' ASSOCIATION

A Third Class Examination

WILL BE HELD AT

DERBY

On the Morning of September 12, 1895.

Members of the Derbyshire, Notts, or Leicestershire Assoc. wishing to present themselves as candidates are requested to send in their names to the Hon. Sec., F. WALKER, Cattle Market, Derby.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

E. E. THOMPSON (Cashel) *Spoiled Wax.*—So far as we can judge from sample the bees would not refuse to work out the damaged wax if made into foundation. But in any case, no trouble need be taken to make it "better in colour." Bees are not fastidious in this respect.

MRS. BUCHANAN (Isle of Wight).—Comb sent is unmistakably affected with foul brood. Considering, however, that the disease is only in the incipient stage, and the very few cells in which the brood has failed to hatch out, we advise removal of all combs in which is found a single sealed cell of dead brood, and the use of remedies both in food and on the floor-board of all your hives, whether affected or not.

R. H. GREENSITT (Blaydon-on-Tyne).—*Ordering Queen from Italy.*—The particulars and instructions given in Signor Paglia's advertisement (see B.J. for first week in each month) are so plain and concise that we do not see how we can make the matter clearer. The very first "condition" answers your query as to free delivery. We cannot say in how many days the queens would be delivered here; probably a week would suffice for ordering and receipt of queens.

A. RAYNER (Gt. Horkesley).—*Queen-cells in August.*—The combs should be examined and queen found, if there. The presence of either eggs or very young larvæ will suffice if queen be not seen. Do not think of buying a queen until the question of queenlessness or otherwise is clearly determined. We fancy all will be right.

J. PARRY (N. Wales).—Comb sent is badly affected with foul brood. The combs and frames should be at once burnt, and the hive disinfected before using again.

H. W. R. (Cornwall).—There is a trace of incipient foul brood in comb received, but being only very slight, the brood in cells is nearly fully developed and perfectly normal.

CONSTANT READER (Cumberland). — Sample of honey received is good in colour and flavour, and of fair consistency. It is a good sample. Whether it will win or not, at your show depends on the exhibits staged against it.

M. HILL (Wambleton).—*Heather and Clover Sections in Competition.* — 1. Sections of heather honey should not be staged in same class as those of flower—or clover-honey. But if they are, and both kinds are equal in every other respect, it will depend entirely upon the judge as to which he will award the prize. 2. Comb is affected with foul brood.

W. B. (Cambs).—There are undoubted traces of foul brood in two or three cells of comb sent, but as the young bees are hatching out freely (twenty or more having emerged from the cells since comb left your hands) it seems as if the case was one for treatment if surroundings are favourable. In latter case we should at once put naphthaline on floorboard of hive and be very careful when feeding. If the slightest sign of "robbing" is seen the stock had best be promptly destroyed for the sake of the healthy hives close to it.

S. T. BADCOCK (Bexhill-on-Sea).—*Young Bees Thrown Out.*—The specimens of bees sent reached us (as they almost invariably do when sent in an envelope) smashed out of all shape, and perfectly flat. We can, therefore, express no opinion as to their imperfect wings. It may, however, be said that imperfect wings, distorted limbs, and other abortions—which affect the bee when in the chrysalis or nympha condition—arise generally from lack of the warmth necessary for its proper development.

PHŒNIX (Hexham).—*Swarm Perished.*—Bees received have all the appearance of being from a swarm smothered in transit. We cannot conceive of them having been hived into a frame-hive in anything like *normal condition*, and being found next day saturated (as they now are) in honey or syrup, and all dead, as stated, unless the syrup from feeder ran in among the already half-dead bees of the swarm, and caused asphyxiation for want of air by their blocking up the entrance.

PADORA (Ramsgate).—*Bee Flowers.*—We do not call sweet alyssium at all a good bee-flower. The best for early spring are crocus, white-rock (*Arabis Alpinus*), limnanthes, and wallflower. Mignonette is one of our best bee flowers. Borage also should not be overlooked in planting for bees.

L. DORAN (Harristown).—*Late Fertilisation of Queens.*—So long as there are drones in the hive, there is, of course, a fair chance of the young queen being mated if weather keeps fine, but we cannot go so far as to say you may "depend on her being fertilised."

S. HEAD (Devon).—1. There need be no fear of the bees swarming again this year. 2. The box contains only immature brood, which has for some reason failed to hatch out. There is no sign of foul brood about the specimens.

TYRO (Parton).—*Late Queen-rearing.*—It is now past the season for queen-rearing, and the chances are against those now in cells becoming fertile queens for wintering. It may be well, however, to see how they get on, so long as there are drones in the hive. A fertile queen may be introduced later on if necessary.

(REV.) G. J. (Stonehouse).—*Foul Brood and Chilled Brood.*—The main difference in appearance between chilled brood and larvæ which has perished from *bacillus alvei* is that the former retains its normal crescent shape, while, after death, the dead grub turns first grey in colour, and later nearly black. With foul brood, on the contrary, the dead larvæ is found stretched out, and having a flabby appearance. It also becomes of a pale dirty yellow colour. There is no photo of chilled brood.

SWEET MONEYREA (Co. Down).—We must have sample of brood in the comb before we can give you our opinion or advice.

KING OF THE FOREST (Hull).—*Bee Syrup for Autumn Food.*—Five pints of water to ten lbs. of refined cane sugar. Add one oz. vinegar and a half teaspoonful of salt. Boil gently for one or two minutes.

*** The Editors will be much obliged to any reader of the B.J. having by him a copy of Index to vol. xvii. (1889), and willing to part with same, who will forward it to the office, stating price, which will be remitted to sender.

Editorial, Notices, &c.

NOTTS BEE-KEEPERS' ASSOCIATION

SHOW AT NEWARK.

The annual show of the Notts B. K. A., was held at Newark on Bank Holiday August 5, in weather eminently satisfactory. The exhibits were staged in a spacious tent and presented a most pleasing and effective attraction to the show in connection with which the exhibition was held. Nearly the whole of the 128 entries were staged, and, according to the general opinion, formed the largest and best show the Association has yet held. The open class brought together some exceptionally good honey, while the local classes, considering the very moderate season they have experienced, did the members great credit. In the class for display of appliances Mr. Meadows' exhibit was extensive and meritorious.

To Mr. Pugh, the energetic hon. sec., the thanks of members are ungrudgingly given, as also for the ready assistance of the stewards. The judge, Mr. C. N. White, of Somersham, Hunts, was assisted by Mr. S. W. Marriott. During the day Mr. White delivered a series of lectures in the bee-tent and also conducted an examination for 3rd class certificates.

AWARDS.

Collection of Appliances. — 1st, W. P. Meadows, Leicester.

Best Hive.—1st, G. E. Puttergill, Beeston; 2nd, W. P. Meadows.

Amateur-made Hive.—1st, J. T. Faulconbridge, Bulwell; 2nd, C. H. Pickin, Fledboro'.

Six 1-lb. Jars Extracted Honey (open).—1st, Miss A. Beatrice, Stow Brandon; 2nd, W. H. Woods, St. Ives; 3rd, R. Brown, Somersham.

Trophy of Honey. — 1st, Viscount St. Vincent, Norton Disney; 2nd, G. Marshall, Norwell; 3rd, W. Lee, Southwell.

Twelve 1-lb. Jars Extracted Honey.—1st, A. J. Mortimer, Oxton; 2nd, R. Mackender, Newark; 3rd, H. Merryweather, Southwell; 4th, J. W. Herrod, N. Clifton; 5th, W. Measures, Upton; h.c., J. Wilson; c., Viscount St. Vincent.

Six 1-lb. Sections.—1st, Viscount St. Vincent; 2nd, C. H. Pickin; 3rd, A. J. Mortimer.

Six 1-lb. Jars Granulated Honey.—1st, H. Wiggett, Hucknall; 2nd, G. E. Puttergill; 3rd, H. Merryweather.

Shallow Frame of Honey.—1st, Geo. Marshall; 2nd, J. W. Herrod, N. Clifton; 3rd, G. E. Puttergill.

Six 1-lb. Jars Extracted Honey (Amateurs).—1st, C. H. Pickin; 2nd, W. Herrod; 3rd, G. E. Puttergill; 4th, T. Marshall, Sutton-on-Trent.

Twelve 1-lb. Sections (Blow's).—1st, C. H. Pickin.

Twelve 1-lb. Jars Honey (Blow's jars).—1st, C. H. Pickin.

Honey Vinegar.—1st, Mr. Wilson, Newark; 2nd. G. E. Puttergill.

Honey Cake.—1st, Mr. Fromings, Radcliffe-on-Trent; 2nd, G. E. Puttergill.

Observatory Hive.—1st, H. Merryweather; 2nd. W. Herrod; 3rd, T. Marshall; 4th, T. Maskery, Kirkby.

Beeswax.—1st, J. Wilson, Langford; 2nd, J. & W. Herrod, Sutton-on-Trent.

Bee-driving.—1st, W. Herrod; 2nd, A. G. Pugh, Beeston.

WILTS BEE-KEEPERS' ASSOCIATION.

The county show of the W.B.K.A. was held at the invitation of the Swindon Horticultural Society in the Town Gardens, on August 21. Of ninety-four entries eighty-five exhibits were staged, the greater part of them being of marked excellence, and carefully put up.

The committee of the Horticultural Society provided a spacious marquee, affording ample accomodation for the display of honey.

The centre table excited much admiration, the ends were occupied by tastefully arranged trophies, each consisting of about 1 cwt. of first-class honey.

At one end of the tent a net screen was stretched, behind which sundry bee-manipulations by the hon. sec. and expert took place at intervals, several members of the W.B.K.A. committee and other friends assisting. Great interest was shown in the work, and much information regarding bees was sought and given.

The B.B.K.A. appointed the Rev. R. Errington, Rector of Clewer, as judge, assisted by Mr. W. Hawkes, of Newbury. Mr. Errington also examined a candidate for 3rd-class certificates.

The judges' awards were as follows :—

MEMBERS ONLY.

Exhibit of Honey not exceeding 1 cwt.—1st, E. C. R. White; 2nd, S. W. Filtness.

Six 1-lb. Sections.—1st, E. C. R. White; 2nd, M. S. Filtness; 3rd, J. Bennett; h.c., W. E. Burkitt.

Six 1-lb. Jars Extracted Honey.—1st, W. E. Burkitt; 2nd, M. S. Filtness; 3rd, E. C. R. White; h.c., W. Tucker.

Twenty-four 1-lb. Jars Extracted Honey.—1st, M. S. Filtness.

COTTAGERS ONLY.

Run Honey, not less than 3 lb.—1st, J. Bennett.

OPEN CLASSES.

Twelve 1-lb. Sections, in Blow's Sections.—1st, E. C. R. White.

Twelve 1-lb. Jars Extracted Honey in Blow's Jars.—1st, E. C. R. White; 2nd, E. Turner; 3rd, H. W. Seymour; h.c., M. S. Filtness.

Six 1-lb. Jars Granulated Honey.- 1st, M.

S. Filtness; 2nd, E. C. R. White; 3rd, M. Tucker.

Three Shallow-Frames of Comb Honey.—1st, E. C. R. White; 2nd, M. S. Filtness.

Honey in Comb (not under 3lb.)—1st, B. Lawrence; 2nd, E. C. R. White; 3rd, M. S. Filtness.

Run Honey (not under 3 lb.).—1st, E. C. R. White; 2nd, W. E. Burkitt; 3rd, M. S. Filtness.

Beeswax.—1st, W. Tucker; 2nd, Rev. J. A. Kempe; 3rd, E. C. R. White.

Single 1-lb. Section.—1st, C. Cox; 2nd, B. Lawrence; 3rd, M. S. Filtness; h.c., H. W. Seymour.

1-lb. Bottle of Honey.—1st, H. W. Seymour; 2nd, W. E. Burkitt; 3rd, M. S. Filtness; h.c., W. Peirce.

Observatory Hive.—1st, M. S. Filtness; 2nd, exhibit disqualified for want of a queen.

WOTTON-UNDER-EDGE B.K.A.

HONEY SHOW AT THE TOWN HALL.

The local bee-keepers' association held their annual show of honey, fruit, flowers, vegetables, &c., at the Town-hall on August 21, and it was patronised by a good number of visitors. Among the numerous interesting exhibits were two wasps' nest, fully inhabited, and these came in for a large share of attention. The Rev. E. Davenport officiated as judge, and made the following awards :—

Exhibit of Honey in any form, not less than 56 lb.—1st, W. Griffin; 2nd, A. H. Chanter.

Twenty-four 1-lb. Sections.—1st, R. Brown; 2nd, Mrs. Till; 3rd, A. H. Chanter.

Twenty-four 1-lb. Jars Extracted Honey.—1st, R. Brown; 2nd, W. Griffin; 3rd, G. Gunston.

Twelve 1-lb. Sections.—1st, A. H. Chanter; 2nd, Mrs. Till; 3rd, General Burn.

Twelve 1-lb. Jars Extracted Honey.—1st, C. W. Workman; 2nd, W. Griffin; 3rd, G. Gunston.

Exhibit of Honey, not over 50 lb.—1st, C. W. Workman; 2nd, A. J. Brown.

Beeswax.—1st, C. W. Workman; 2nd, W. Griffin; 3rd, A. J. Brown.

For the Best Wasps' Nest.—1st, W. Griffin; 2nd, A. J. Brown.—(*Communicated.*)

HONEY SHOW AT BAKEWELL.

In connection with the Bakewell Horticultural and Industrial Exhibition, a show of bees, honey, and wax was held on August 1, and, considering it was the first venture, reflected very creditably on all concerned.

The bee-tent of the D.B.K.A. was in attendance, and was crowded to excess for each of the manipulations and lectures, which were conducted by Mr. C. Wootton, of Draycott, and proved to be one of the chief sources of interest.

Mr. C. Wootton also acted as judge for the apiarian section of the exhibition, and the following is the list of awards :—

Observatory Hive.—1st, J. A. Carrington; 2nd, H. Clulow.

Six 1-lb Sections.—1st, Mrs. J. Wildgoose; 2nd, H. Clulow; 3rd, J. A. Carrington.

Six 1-lb. Jars Extracted Honey.—1st, H. Clulow; 2nd, G. Thornhill; 3rd, E. Throp; 4th, J. A. Carrington.

Bees Wax.—1st, H. Clulow; 2nd, G. Thornhill.

Three Combs of Honey in Shallow Frames.—1st, H. Clulow; 2nd, J. A. Carrington.

Six Sections and Six 1-lb. Jars of Extracted Honey.—1st, Mrs. J. Wildgoose; 2nd, H. Clulow; 3rd, J. A. Carrington.—*Communicated.*

ESSEX B.K.A.

THE EXPERT RETIRES.

At a meeting of the committee of the Essex Bee-keepers' Association, held to audit the accounts of the show at Southend, in June, Mr. F. H. Meggy, the hon. sec., reported that the cost thereof had been between £40 and £50. All the grants and special prizes promised had been received except one, about which there was some misunderstanding, and when that was paid the accounts would just balance. The accounts having been passed, the question as to whether they would be able to hold an Autumn County Show was discussed. Eventually it was left for a sub-committee to report upon the subject next month. After some other matters had been considered the main business of the evening was dealt with—viz., the resignation of Mr. W. Debnam, who has acted as expert of the Association ever since its foundation, and who wrote to announce his retirement at the end of the year. He explained that he felt compelled to do this owing to the large number of members now belonging to the Association wanting to be visited as quickly as possible each spring and autumn. The great distances to be covered made it impossible for him to do justice to the Association, especially as he was not so strong as he used to be. The announcement was received with general regret, and itiled to some high testimony to the work Mr. Debnam has done for the Association. The hon. secretary believed they would be able to retain Mr. Debnam's services for a portion of the county if they decided to divide it up into districts; but the subject, requiring a good deal of consideration, was deferred until a future period. The hon. secretary invited a vote of censure for not having yet called the annual meeting, but said he hoped to arrange for it next month.—(*Communicated.*)

BEES AND BICYCLISTS.

This is the season of the honey show—an institution greatly developed during recent years, that held this week at Shrewsbury being

one of the most important. Between bees and bicycles there may not at first glance appear to be more connection than is caused by the alliteration of the words. We have recently come across a case, however, in which the one has had a good deal to do with the other. An enthusiastic bee-keeper, unable to find scope for his hobby in London, has rented standing room for his hives in a flowery part of Kent, just about eighteen miles from the metropolis. He has erected a kind of movable house on the ground wherein he can pursue his entomological studies. The distance is nothing to a cyclist, and he runs out whenever he has time to spare. As he only pays a sovereign per annum for the piece of ground, and the house or shanty cost no more than a few pounds, he will easily be able to make his hobby remunerative. One reason for mentioning it is that it provides an example of wholesome and inexpensive recreation for townsmen who follow sedentary occupations, and yet are fond of country life. Bee-keeping with the aid of a bicycle is but one of many resources to be recommended to them. —*Pall-Mall Gazette.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

BEE JOTTINGS.

FROM HIGHWAYS AND BYPATHS.

[2165.]—*Do Bees Carry Eggs?*—My regrettable "slip" in "Jottings" on page 334, has given one or two of your more observant readers an opportunity for doubting the facts therein stated. I am sorry for this, for, with all the said facts before them, they would, I think, have seen at once that the observation as to drones taking twenty-eight days to develop was purely a slip of the pen. Reference to back numbers of B. J., however, shows that I stated on page 292 that the queen was caged from Friday to Wednesday, and that the eggs appeared in the combs on the Monday. My mistake, therefore, in no way interferes with the "inevitable conclusion" arrived at. Moreover, *positive proof* is not wanting, seeing the queen was caged *five* days and not three, as your correspondent Mr. Hooker assumes, which bears out my conclusions, and, allow me to add, upsets his assumption. The main fact upon which I base my conclusions is that *eggs were deposited in the cells of the adjoining comb upon which the queen was caged, during her confinement, and these self-same eggs are those which produced both drones and workers distinct in race from any in the apiary referred to.* Now, although the materials upon which I based my theory were not so full as might have been desired, still, seeing that the information which reached me was furnished by so careful an observer as Mr. Scattergood, it was amply sufficient to make me certain that the statements were correct and incontestable. Now, however, Mr. Scattergood has himself favoured us on page 345 with particulars and details which prove the facts to be as I have stated, and that my conclusions are inevitable. Since my first letter was written I have also tested the question in my own apiary, and find that bees not only do carry eggs, but do so pretty frequently. I can give two positive cases bearing directly on the point, but prefer for the present to rest on the one already presented to your readers, first, because it has been carefully and efficiently noted by Mr. Scattergood in his letter of last week, and second, because it is possible to give your readers too much of even a good thing. That I unthinkingly made a slip, I candidly confess, but when those of my "candid friends" who draw marked attention to it imply that I did not know how many days it takes to develop a drone, it has too much resemblance to a joke to be taken seriously. Notwithstanding this, however, the case is so clear in itself that it should satisfy the minds of the most critical. The point of the letters (2159 and 2160) is to prove that the drone eggs were laid after the queen was released. Now on this question I would observe, in cases where mating has for some reason been long delayed, queens *will* sometimes start laying by depositing a few drone eggs. Here, however, is a queen—that had headed a large colony in my own apiary and laid many thousands of worker eggs—credited by your correspondents with depositing drone eggs, and these largely interspersed, too, with worker eggs, in worker cells, although there were plenty of drone cells in the hive, and all before she was released from the cage! No, gentlemen, "it isn't good enough." In other words she couldn't do it, and it will hardly be suggested that a laying worker produced the impregnated eggs! Perhaps your correspondents will explain how the Ligurian bees came to that hive if bees did not carry the eggs? I am very glad, however, to see the name of Mr. J. M. Hooker at the foot of a letter in B.J. again, even though it is to criticise myself. He so seldom favours us in this respect, that one is inclined to say, better thus than not at all.

Surrey B.K.A.—I can fully endorse what your correspondents say with regard to the services to bee-keepers rendered in the past by

Captain Campbell. A more genial, enthusiastic, and hard working secretary than he in his younger days it will be hard to find, but as the worthy Captain has many times expressed a wish to retire on account of his age, and has personally told me that the work "was now more than he could undertake," he would, I feel sure, be glad to be relieved of it. No doubt, Captain Campbell could and would do much to assist his successor, whoever that may be. Under these circumstances, therefore, I heartily second Mr. J. Greenhill's proposal of last week, that we invite Mr. J. W. Jacomb-Hood (to whom I am not entirely unknown) to become the active hon. sec. of our association, and I promise to do all that lays in my power to make the association "buzz along" again.

The Trials of a Queen Bee.—The following particulars showing the hardy nature of a queen-bee will, I fancy, not be without interest to many of my readers. In the autumn of 1894 I drove a skep of bees and sent them to a friend. In July last I required for making-up an exhibit on "queen-rearing" a queen raised by natural means, and knowing the driven queen was well advanced in years I approached my friend as to letting me use her for this purpose. He assented thereto, and the queen was exhibited accordingly, and—as it afterwards turned out—had a very trying time of it. During the show in question a queen was required for the bee-tent demonstration, in consequence of the queen of a stock that had been driven taking flight and getting lost. To make good the loss, my friend's queen was trotted round for public examination in a cage, and was subsequently allowed to run in with the driven bees. After the show was over the driven bees and their new queen were sent to one of our agricultural colleges for further experimental purposes. Finally it was despatched to a permanent resting-place some thirty miles from London, and on being examined last week the poor, hardly-used "mother-bee" was found in flourishing condition, surrounded by bees, brood, and eggs more than sufficient to ensure the welfare of that colony well into another season.

Driven Bees.—These are fast becoming a thing of the past in many districts. I have been and am now journeying by road, rail, and on the "byke" to various parts south and south-east of London, and my experience proves that the displacement of the skep by the modern hive is most marked. It is now very difficult to obtain even a few healthy stocks of driven bees. In one woefully-neglected apiary we got permission to drive a stock fairly strong in bees (but stronger still in disease), and after very much forcible argument and a "consideration" leave was ultimately given to destroy the lot! Time was precious and loss of bee life deplorable, but there was a big fire that night, and about a dozen skeps (new and old) disappeared in the holocaust!—H. W. Brice, *Thornton Heath.*

DRIVING BEES.

"WHAT TO AVOID" IN DRIVING COTTAGERS' BEES.

[2166.] Would it not be well to give in next Journal some plain warnings to those who "lightly go about bee-driving"? Yesterday I interviewed an old lady in a "healthy" district, who had over a dozen stocks doomed to the sulphur pit. I want bees just now to give some unfortunate bee-keepers who have consented, *pro bono publico*, to let me destroy their diseased stocks. In vain I pleaded for these bees. Nothing would induce her to forego the sentence. "She *once* gave a man permission to drive her bees"—her apiary was upset — robbing set up — and the following winter every hive she had perished! I have found it well to drive a good way off the stand and not to windward of it. A dish and wet cloth in which to put comb as it is removed is very useful. A wetted feather is also better than a dry one for brushing bees from combs. —N. S. Ford, *Kent, August* 31.

[We will endeavour to comply with the above suggestion next week.—Eds.]

DRIVING AND HIVING BEES.

A HOLIDAY EXPERIENCE.

[2167.] Would you kindly allow me space in your valuable journal, to relate my experience in bee-driving and hiving, and tell me what was done that ought to have been undone, or what was left undone that ought to have been done? I was spending a part of my holiday at a farm in the village of Ludham, Norfolk. Whilst there, the gentleman told me he intended to "burn" four skeps of bees; so I immediately discountenanced such barbarous proceedings, and told him I would take the honey from the skeps if I might have the bees. He gave me permission to do so. Well, in the afternoon, I hunted up a old box; made a hole in the lid, and nailed a piece of wire-gauze from an old sieve across it. Then in the evening, having had a piece of muslin "pinned" around my head (in lieu of a veil), I proceeded to "drive" the bees. I procured a pail, and having inverted the skep of bees, placed it upon the pail, and was just putting an empty skep upon the top of the other preparatory to driving, when I found there was a flaw in my "fortification," and in consequence thereof, I received a sting upon my forehead; then another, then four upon my chin, and then two on my neck! Deeming that my punishment was exceeding my fault, I began to think it was wisdom, to replace the skep where I got it from, and fly to the nearest shrub, which, to say the least, was rather "infra dignitate." Looking out from my leafy retreat, I perceived the owner of the bees with his coat off and swinging it around his head; but the "swinging" was of no avail, for he soon received a sting over his left eye, and a farm lad, coming up at that moment, struck with

the ludicrousness of the scene, was laughing boisterously, when, apparently disapproving of this mirthfulness, an irate bee at once stung him upon his upper lip. I need hardly say his face immediately assumed a different shape.

Well, to be brief, we left the bees alone for that day, and I wrote home for a smoker and four boxes to send the bees away in. Meantime, I drove over to Norwich and procured a proper "bee veil." Boxes and smoker arriving in due course, I made another start in the evening to drive the four skeps of bees, which I did successfully. I first drove the bees into an empty skep, and then poured them into the boxes and placed the latter upon the stands where the skeps stood, and left all for the night. Upon arising the next morning at 3·30, I was delighted to find all the bees in their respective boxes, so I nailed them up, harnessed the horse, got my boxes of bees in the trap, and drove with them to the station, seven miles away, and sent them off to my father at Kingston, 130 miles distant. He received them the *same* night, and next morning he (having prepared previously two foulbroody hives by thoroughly scalding with steam from a factory boiler) proceeded to hive them. He opened the box containing the largest lot of bees and found half of them dead! So he threw them all out upon a towel in front of the hive, but they would not run in, they seemed stupefied. He then got a wooden spoon and guided a few towards the entrance, but they would not march; he next tried coaxing them with the smoker, but it was of no avail. Finally he thought that, as they were rather a small lot, he would unite another box of bees with them, which he did successfully, and then they went in all right. He placed an unfinished section of honey upon the top, and they are going on nicely, carrying in pollen. Well, after breakfast he decided to unite the other two lots of bees, so he opened the boxes, gave the bees a good dredging with flour, and poured them upon the top of the frames. He then put a section of honey upon the top of them, lightly covered all up, and left them for about an hour. On going to look at them again, he found the bees had cleared out the section and were fighting a little among themselves. Whilst he was still standing there looking on, the bees suddenly began to pour out at the entrance, and soon the air was full of them as if a big swarm was on the wing. At that moment he was called away. On his returning he observed the hive looking unusually quiet, and upon examining the interior he found it was empty and the bees gone! Moreover, they have neither been seen or heard of since. So, will you kindly tell me:—1. Why did half of the bees die in the largest box, as they had plenty of ventilation? 2. Why they would not enter the hive before uniting? 3. Why the last swarm evacuated the hive?—H. IDE, *Kingston, Surrey, August* 31.

[1. If, as stated, the bees had plenty of ventilation, and were delivered in good condition at the station, the mishap must have occurred through some mismanagement on the journey, of 130 miles by rail. 2. The half-dead condition of the remaining bees would account for their sluggishness. 3. To say the bees were "poured upon the top of the frames and a section of honey put upon the top of them," after being well "floured," gives us the idea that they were not dealt with in the very best manner, and the bees, disliking the treatment, absconded in consequence. It would have been far better to introduce them in the usual way by throwing them out in front. There should be no difficulty whatever in getting driven bees to remain where placed if fed and cared for properly. Your first attempt at driving the bees exactly illustrates our meaning. Badly begun, all went wrong—properly carried out, everything went right; and so it would have been all through in the hands of any experienced bee-keeper. We have no doubt you will profit by the experience gained, and succeed next time.—EDS.]

EXHIBITS AT SHOWS.

A PROHIBITORY CLAUSE IN SCHEDULE.

[2168.] I wrote for a schedule of the Show to be held at Derby September 11 and 12, with the intention of sending an exhibit, but to my great surprise I found the following clause printed across the entry form—a condition well calculated to deter any but bee-keepers in the locality. It seems prohibitory to all who cannot fetch away their exhibits. The clause reads thus:—"N.B.—The committee do not undertake the packing and returning of any goods."

On my obtaining schedules of Horsham, Hereford, Lancashire and Cheshire, and South of Scotland Shows I also find their classes strictly "protectionist."

On this account it seems to me useless to advertise them for so many weeks in the columns of the JOURNAL. They ought to depend for publicity on their local Press. On the other hand, I consider the Shrewsbury schedule was liberal and comprehensive, evidently framed with considerable care, and should serve as a model for honey schedules generally.—E. D. TILL, *Eynsford, August* 24.

SURREY B.K.A.

[2169.] There are some hopes now that the re-formation of the Surrey Beekeepers' Association will in the near future become an accomplished fact. I have just received a communication from the Organising Secretary to the Technical Education Committee of the Surrey County Council asking me to furnish him with a list of names of those interested, as he proposes at an early date to hold a conference o beekeepers and others with the view to th formation of an association for the County. shall feel obliged if you will allow me to as

through your columns for the names and addresses of any who are interested in the matter to be sent to me so that they may be included in the list I am compiling for the purpose.—A. D. Woodley, Hon. Sec. Berks B. K. A., 17, *Market-place, Reading, August* 30.

TO CORRESPONDENTS.

BY ONE OF THEM.

Write upon pages of a single size,
Cross all your t's, and neatly dot your i's;
On one side only let your lines be seen—
Both sides filled up announce a Verdant Green.
Correct, yes, re-correct, all that you write,
And let your ink be black, your paper white;
For spongy foolscap of a muddy blue
Betray a mind of the same dismal hue.

[2170.] You printed the above lines in the B.B.J. twenty years ago (August, 1875). In the meantime another generation of bee-keepers has come upon the scene; I therefore suggest that you print them again for the benefit of those who have not seen them previously. Many impetuous correspondents dash off their thoughts to you *currente calamo* and never dream of revising what they have written nor aim at brevity. It is surprising how letters can be condensed without sacrificing clearness.

Redundancy of expression, or the habit of "laying it on too thick," is a specie of verbal obesity afflictive all round, usurping more than its fair share of space, time, and editorial patience.

If all who wrote to the Bee Journal studied conciseness, interesting matters would less frequently be elbowed out from week to week. *Verbum sap.*—T. Long, *August* 24.

WOOD COVERS FOR HIVES.

[2171.] Will you kindly allow me to ask advice from your correspondent "R. T. Shea" (who wrote on the above in B.J. of September 20, 1894, page 375), under the following circumstances:—I have made a cover 16 in. square, of ½-in. wood, in three pieces. On the underside of two outside pieces I have nailed window lath, ⅞ by ¼ on the ends and one side; the middle piece, which is 6 in. wide, has a piece of lath on each end and a hole in centre for feeding purposes. I wish to contract my bees to six frames by taking out the two outside combs on each side and bringing up the dummies, but the bees can get over the frames and out at side into outer case; while if I place the empty frames at back of dummies, the bees will still have access to the whole of frames. Does this make any difference? If so, how should I avoid it? I also find, in placing on a chaff-covering, that the outside pieces of the wood-cover are liable to get displaced. Do you use any covering besides the wood one, and candy in wood box with glass in top for inspection?—A Worker, *Long Eaton, August* 26. P.S.—During the last winter a neighbour's stock, which had the super-clearer left on, came out the best stock in spring.

[We will draw the attention of Mr. Shea to the above.—Eds.]

THE DAIRY SHOW.

[2172.] Having seen the appeal to bee-keepers of the United Kingdom to make the last show of 1895 a success by entering in the honey classes, I should like to offer a suggestion with regard to the exhibit of mead, honey vinegar, honey labels, &c., exhibited by the B.B.K.A. Could not the parent association offer small prizes, such as certificates for such exhibits as are enumerated above, and for other interesting exhibits connected with apiculture? I feel sure that bee-keepers would support these classes and would not mind paying a small entry fee for their exhibits. Last year the exhibit of the B.B.K.A. was both educational and interesting, and I see no reason why their exhibit should not be one of the most interesting features of the coming Dairy Show.—H. W. Seymour, *Henley-on-Thames, August* 30.

SUGAR "MADE IN HOLLAND"

FOR USE AS BEE FOOD.

[2173.] The excessive cold of last winter proved too severe for several hives of bees fed upon syrup. They appeared to have died from dysentery with plenty of stores sealed in their hives which were well packed for winter. The bees were principally driven bees on drawn out combs and sheets of foundation. The syrup was made according to directions in "Cowan's Guide," from lump sugar guaranteed pure cane by a local grocer whose word I did not doubt until finding all bees dead. When, on examing the end of the hundredweight box which contained the sugar, which was delivered sealed as sent out by the makers, I found in large letters across "Made in Holland." My reason for troubling you is to ask if any cane sugar is made in Holland?—William E. Tanton, *Great Torrington, August* 29.

[We are unable to say.—Eds.]

BEES AND SCHOOLMASTERS.

[2174.] "Der Lehrmeister in der Bieneuzucht," referred to in "Reviews of Foreign Bee-papers" in your journal, August 29, treats of the "Relationship of the Schoolmaster to Bee-keeping." As this is a subject of great importance, and one that the B.B.K.A. and affiliated associations wish to promote in the country, it would be a service if some bee-keeper acquainted with German would kindly scan the book, and see if there are any valuable hints to be derived from it.—E. D. T., *Eynsford, August* 31.

VIRGIL AND BEES.

[2175.] Referring to JOURNAL, August 8, letter from Mr. Lockwood [2142, p. 314], I believe the translation of the Latin quotation is as follows :—"They have said that bees have part of the mind divine and ethereal breath." The word "mentus" should have been printed *mentis*.—I. P., *August* 20.

WEATHER REPORT.

WESTBOURNE, AUGUST, 1895.

Rainfall, 3·23 in.	Sunless Day, 1.
Heaviest fall, ·78 in. on 3rd.	Above average, 24·8 hours.
Rain fell on 18 days.	Mn. Maximum, 65·2°.
Above average, ·76in.	Mn. Minimum, 52·4°.
Max. Temperature, 73° on 21st.	Mean Temperature, 58·8°.
Min. Temperature, 44° on 25th.	Maximum Barometer, 30·30° on 31st.
Sunshine, 223·8 hours.	Minimum Barometer, 29·27° on 4th.
Brightest Day, 17th, 13 hours.	

It has been a good season for honey here; my average per hive is about 80 lb.

L. B. BIRKETT.

Queries and Replies.

[1352.] *Using Naphthol Beta in Bee Food.*—The other day, when I did not happen to be present, 50 lb. of sugar with 70 grains of naphthol beta were made into syrup for use for the bees. I am, however, rather doubtful about using it for the two following reasons :—1. The syrup, when made, was put into the empty extractor, which had been, for the last month or so, used for extracting comb, some of which have had honey in them taken from hives in which there may have been a taint, more or less, of foul brood. I say "may have," for I am not certain. The extractor, however, had, previously to the syrup being put in, been well washed out with boiling water in the usual way. Under the circumstances can I, do you think, use the syrup with safety, or had I better not risk it, and throw the syrup away? 2. My question appears trivial, but I am loath to waste the good sugar unnecessarily. The naphthol beta had been dissolved in whisky, not spirits of wine, and I am afraid did not resolve itself into a pure liquid. 3. In a general way is naphthol beta supposed to be only a prophylactic, or does it tend to actually cure the disease if only in a mild form? Suppose, for instance, I have a diseased stock in my garden, and other hives get at it and begin robbing, will the fact that those others are being fed with medicated syrup tend to prevent the introduction of foul brood? This last has actually happened to me. By accident the cover of a diseased lot was left open about half an inch for half an hour or so, and, when I discovered the mistake, robbing was in full swing. I, of course, shut up the box, front and rear, instantly, but I shall, not improbably, lose the most of my stocks, twenty-eight in number. 4. Suppose I were to add to the syrup 60 or 70 more grains of naphthol beta properly dissolved in spirits of wine, would that do? Would the mixture be too much impregnated with the naphthol beta, or would the 70 grains already put in, and not properly dissolved, sink to the bottom in the form of a deposit?—M. G. F., *Cheltenham.*

REPLY.—1. We should not hesitate to use the syrup prepared under the conditions stated. 2. Whisky is just as good as spirits of wine if sufficient be added to form a clear solution. The failure to secure this was no doubt caused by using too small a quantity of the spirit. 3. Naphthol beta tends very greatly towards effecting a cure if given when the disease is in the incipient stage, and, if used in all syrup given to bees as food, there can be no doubt as to its beneficial effects. 4. On no account give the additional 60 or 70 grains of n. beta. It would be dangerously overdosing the bees to do so, and could have none but injurious effects.

[1353.] *My Experience of Italian Bees.*—In the middle of May last I bought a stock of pure Italian bees on eight frames. They came to hand nicely packed and in good health, but as for them being sold to me as a stock on eight frames, why three frames would have held the whole of the bees! I was charged 35s. and carriage, and consider I was myself *sold*. I find all dealers in bees and appliances have one condition which they invariably stick to, *i.e.*, money down before you get a sight of what they mean to send you. I was expecting to have a stock for 35s. which I could get into condition for doing something to pay part, at least, of their cost, but they have done nothing because of being too weak when received to get up strength in time. They are now a grand lot of bees, covering twelve frames, and most of them are solid sheets of brood (eggs, grubs, and capped brood), with stores on all frames about 2 in. down from top-bar. They have never swarmed, and killed off their drones first week in August. The above is a sketch of the history of the only stock of Italians I have. On August 24 I examined them again, and was surprised to find two frames nearly full of capped drone brood. These two frames were originally put in with starters only, and the first lot of drones were hatched in them. They have killed off one lot of drones, as before stated, and now another hatch is coming on. 1. Do you think they mean to swarm so late as this? I could do with some of the capped brood (of which there is a great lot) to strengthen up

some other lots which need help to get ready for winter. 2. The hive in which the Italian stock is in holds thirteen frames, and is practically full. Would you advise me to take away the drone-frames and put in worker-frames, or would you space the remaining frames wider apart for wintering? Have I too many bees in this hive to winter well?—Your advice will greatly oblige.—LEARNER, *Blackburn, August* 27.

REPLY.—1. There is no fear of the bees swarming this year. It would seem as if the queen had refilled the drone combs with eggs, because of there being no other vacant cells in the hive. The very best way, therefore, in which her prolificness may be utilised is to take frames of Italian brood to strengthen your weak stocks and keep the queen supplied with worker combs in lieu of those removed. 2. By all means remove the drone-brood, which is worse than useless at this late season.

[1354.] *Is Re-queening Advisable?*—I have a bar-frame hive of bees, which, according to our county expert when on tour in spring, ought to be re-queened this autumn. At his visit bees were scanty, and covered only about six frames well. He told me not to put supers on till about middle of June. They have given only about 6 lb. honey in supers and one frame at back of hive (with no brood) for extracting. But now I am uncertain what to do, as the bees thickly cover ten frames, and when I take dummy out it is covered with bees, and in moving frames back to give space for manipulating, bees are thick on sides of hive and on the floor. Nearly every frame is full of *sealed* brood also. 1. Do you think by this description it is possible the bees have displaced their old queen, and have raised a new one? By the present state of colony it seems as if they had. Should this be the case, will not re-queening be unnecessary, and not advisable? 2. I have some bees in a skep, in which they were hived June 21. They are a second swarm or cast. At present time they weigh but little, skep, bees, comb and contents, and floor-board included. I thought of driving them out of skep (I can get driven bees) and uniting, and letting the two lots, less one queen, run in entrance to frame-hive, fitted with full sheets of foundation, and putting skep on top for hatching out brood; then rapid feeding. Would this be a good plan, or can you tell me a better?—SARTOR, *Ascot, August* 31.

REPLY.—1. There is little doubt the old queen has been deposed and another raised in her stead. It would be the height of folly to re-queen the hive under the circumstances stated. 2. Your plan of procedure will do very well except putting the skep above frame-hive for hatching out brood. This will not do at all. The queen would remain in skep and continue breeding there quite late in the autumn after adding driven bees. The better plan is to cut out brood from skep after driving, and tie it into frames for hatching out in lower hive. Then begin feeding at once.

[1355.] *Wintering Driven Bees on Drone Combs.*—In June last I placed a swarm in a frame-hive, but being "green" at the business I put only strips of foundation in frames instead of full sheets. The result is the bees have built a good deal of drone-cells. The remaining four frames I put full sheets in. I propose to take out and give two of the frames containing drone-cells to a hive of driven bees now. Could you advise me better—*e.g.*, would you recommend the cutting out of drone cells? I think it is, as a rule, in little matters like these that beginners are so apt to go wrong. 2. Can you inform me why some bee-keepers put bee-space slit at bottom of dummy board? Do you recommend it?—DRONE, *Tenbury, Worcester.*

REPLY.—1. The two frames with preponderance of drone cells may be used for wintering the driven bees on as proposed, but they should be placed on the outsides (one on each side) of any other combs or sheets of foundation given them. You will thus get full advantage of combs and food for the driven bees, while the outside ones may be removed in April or May and replaced by worker combs built out at that time. 2. It is sometimes advantageous to have passage-way below dummy-boards, but when made so there should be some means of rendering them close-fitting when needed to be used thus.

[1356.] *Questioning Judges' Awards.*—Will you kindly say which you consider to be the most worthy recipient of a prize at an exhibition for the best 16 lb. of super honey, in box (according to schedule):—1. The man who produces a box of super honey from one hive, and does not use shallow-frames, but shows it in one solid mass as made by the bees; or, 2. The man who has the choice of six hives, and uses six shallow-frames placed in an observatory hive case, and has the frames arranged in tiers of two deep? This was the case at a recent flower show, and the award caused dissatisfaction. Please, therefore, give an unbiassed reply.—ONE HIVE, *Burton-on-Trent, August* 26.

REPLY.—It does not require much discernment to discover the trend of our correspondent's views in the case presented for our "unbiassed reply." In fact "one hive" decidedly (as the lawyers say) puts a "leading question," and—if he will pardon us for saying so—endeavours to get us to upset an award obviously adverse to himself. If this be so, we must again repeat that, as a rule, this re-judging of awards is a task we must for many reasons decline to undertake. In the case under notice, however, and as we understand

the wording of schedule, the prize went to the "best 16 lb. of super honey." Had the words been "best super of honey not over 16 lb." the case would have been altogether different; but, according to the schedule the judge had no concern as to which was "the most worthy recipient," &c. He would probably consider it rather an advantage than otherwise to be able to examine and judge of the quality of the "16 lb. of super honey" by having each comb open for free inspection in a glazed case. In these days of keen competition advantage is taken of every improvement in raising comb-honey of good quality and in profitable quantity, and in securing this result the shallow frame is so advantageous that we fear sentiment must go down before utility, thus confirming the judge's award in the case referred to.

[1357.] *Cork-stopped Honey Jars.* — Can you inform me where I can purchase 1-lb. glass honey jars with cork stoppers? My customers complain that the screw-cap jars leak, more or less when the honey is in a liquid state, and the tie-over jar is also very unsatisfactory as some of them hold 17 to 18 oz. of honey, and unless quite full, purchasers find fault with them. If you cannot furnish the information, perhaps some reader of the B.J. may be able to kindly say where such bottles can be got, or the place where they are made? —T. JAMES, *Stanbridge, Downend, nr. Bristol, August* 28.

REPLY.—Our correspondent will find honey jars of various kinds advertised in this journal and would do well to write for particulars to those who deal in such corks, for tie-over jars are easily obtained.

[1358.] *Removing Straw Supers from Frame-hives.*—I am anxious to remove a "straw top," with excluder under it, from a bar-frame hive. My habit is to draw a string between super and hive, thereby cutting a number of bees along with the combs. Will you let me know the best way to avoid this? I fixed comb foundation in super 2 in. from centre to centre, as you advised me in beginning of summer.—D. McG., *Pennyfuir, Oban, N.B., August* 19.

REPLY.—Fine brass-wire is far better than string for the purpose referred to, and if very gently and carefully "pulled" no bees need be injured in the process. A couple of bits of wood should be attached to the wire, as is done by tradesmen who use wire for cutting butter. The super will need raising slightly, just to allow the wire to pass under it, and, when "pulling," draw the wire in an opposite direction to the way the perforations in zinc run; this reduces the chance of cutting bees to a minimum. After the wire has been drawn through, the super should be raised a little, and left so for half an hour, to allow the bees time for removing the running honey from the severed cells. But take care, however, that no bees can get at it from the outside.

Echoes from the Hives.

Pennyfuir, Oban, August 29.—Bees were rather weak here in the spring, and it was well on in June before swarming started, then, with the hot weather towards the end of the month, a number of swarms were lost; but honey was gathered fast until the rain came on in July, and this stopped outside work here almost entirely. Since then stores have disappeared very quickly, and some stocks have to be fed. We have, however, the heather before us yet, and the weather is certainly brighter. If the present warmth continues we will have a fair honey harvest in the west of Scotland yet. Last year was my first with frame-hives, and I had an average of 35 1-lb. sections from each, although it was the middle of August before they started in supers.—D. M. G.

Bee Shows to Come.

September 7.—Lancashire and Cheshire B.K.A., in connection with Bramhall and Woodford Horticultural Society. Annual show of bees and honey at Bramhall Hall. Open to district only. Schedules from Secretary, J. Bell, Davenport, Stockport.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries closed.

September 28. — Roxburghshire B.K.A. Annual Show in the Corn Exchange, Jedburgh. Numerous prizes. Entries close September 24. Thos. Clark, Secretary. Pleasants, Jedburgh.

October 8, 9, 10, and 11.—Dairy show at the Agricultural Hall, London. Liberal prizes in five classes for honey. Open to all. Entries close September 9. For schedules apply Wm. C. Young, sec. Dairy Farmers' Association, 12, Hanover-square, London.

October 19.—Lanarkshire B.K.A. annual show of honey and bee appliances (appliances open to all), in Public Hall, Larkhall. Also general meeting of members same day at 5 p.m. Entries close October 12. Schedules from John Stevenson, secretary, Merryton Braes, Larkhall, N.B.

DERBYSHIRE BEE-KEEPERS' ASSOCIATION

A Third Class Examination

WILL BE HELD AT

DERBY

On the Morning of September 12, 1895.

Members of the Derbyshire, Notts, or Leicestershire Assoc. wishing to present themselves as candidates are requested to send in their names to the Hon. Sec. F. WALKER, Cattle Market, Derby.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

E. C. (Newcastle).—*Beeswax.*—We should be very pleased to offer our opinion on the several samples of bees-wax forwarded if our correspondent will give us his assurance that the samples have not already been adjudicated upon by a judge or judges. In which case we should not care to express an opinion. We are led to make these remarks because the samples present the appearance of having been on the show-bench in competition with each other. Exhibitors should loyally accept the verdict of judges, without seeking to weaken their awards by obtaining outside opinion. Comparisons are always odious, and when brought to bear upon awards at shows are obviously unfair.

A. L. Y. M. (Northants).—*Preserving Combed Sections.*—1. It cannot be otherwise than very helpful to keep combed and partly combed sections—from which the honey has been extracted—for use another year. And for the difficulty with wax-moth referred to, it may be entirely overcome by wrapping each rack of sections in a newspaper, and sprinkling a little powdered napthaline on the paper before laying the rack on it. 2. Combed sections no more encourage queens to "go up" than do sheets of foundation. 3. It is a good plan to pare the comb of sections down, cutting half an inch of the face of cells away before putting on, so as to get a new "facing" built to the cells.

F. G. Kirkby, (Sheffield).—*Coverings for Hives.*—1. A first covering of "ticking" with another of felt under-carpet or indeed any old carpet available, and a bag of chaff over all makes an admirable winter covering for frame-hives in winter. 2. Refined sugar as sample—if guaranteed pure cane—is quite suitable for winter bee-food. 3. Honey in sections will no doubt become solid in time, but we cannot say how soon, it varies so. It can only be removed from combs by means of the extractor, or by cutting the comb up and straining through fine muslin.

Chelsfield.—Though not badly affected, there is certainly foul brood in comb sent.

W. M. McFarlane (Atherstone).—Sugar sent may be pure cane, but, being a raw, unrefined sugar, it is altogether unsuitable for feeding bees in autumn.

J. Kinnings (Craven Arms, Salop).—*Preventing Increase.*—1. Increase of stocks can only be kept down by preventing swarming or by "joining-up" in autumn or spring. Nineteen frame-hives from eight in spring is certainly a "big increase" for one year; and, since you desire to sell some, why not advertise them in our sale column? 2. If body-boxes are "full of honey," the two outer combs of each may be removed and extracted. The present time is suitable for taking it. Twenty stocks in frame-hives is too many to keep unless you have some spare time to attend to them.

David Howell (Bunyport).—*Waiting for Swarms.*—1. Your experience is a very unfortunate one. Why the bees refused to swarm it is not easy to say, except that young queens are less disposed to emigrate than older ones. You should have driven a swarm in May, when the drones referred to were on the wing. Having, however, waited till end of July it was too late to put sections on, just as August 21 was too late to make an artificial swarm by driving the bees. Having done so, however, and put them on six sheets of foundation, they must be fed regularly till they have 15 to 20 lb. of food stored in the drawn-out combs. Give them 3 or 4 lb. of syrup per week.

A. B. T. (Endon).—*Making Bee-food.*—1. The sugar named is suitable for syrup-making, but to 10 lb. sugar must be added 5 pints of water (not "$2\frac{1}{2}$ *pints*" as in your note). 2. We consider it best to boil the syrup gently for one or two minutes, but if very inconvenient to do so, the boiling may be dispensed with. Some bee-keepers just stir it in the hot water as proposed.

(Rev.) A. J. Roberts (Hailing Rectory).—*Suspicious Sealed Cells in Combs.*—The suspicious cells referred to on p. 321 are those from which brood has failed to hatch out, and in consequence remain capped over. To see such cells is to suspect foul-brood—as we thought all bee-keepers knew—and they should be examined accordingly.

E. Hyles (Harlow).—If seller guarantees sugar sent to be pure cane, it will do very well for the purpose, but not otherwise.

Blandford (Dorset).—*Spiteful Bees.*—It seems a great pity to destroy two good stocks of bees merely because they are "spiteful." Why not re-queen them? If your friend is unable to do anything with the bees referred to, why not enlist the help of some one who would take away the old queens and introduce new ones? You have an expert in the neighbourhood who, no doubt, would give the desired help.

F. R. Kent (*Ipswich*).—Bee food should always be made from cane sugar, and the sample sent would do very well for spring food, but for winter it is much better to use the refined white-crystals like second sample.

W. G. Blackwell (*Hampton in Arden*).—Bees sent are the ordinary kind. There is no accounting for the progeny of some queens being persistently vicious, and you did well to destroy the queen after "driving."

A. F. Gooding (Rochester).—*Using Naphthaline.*—Yes, naphthaline should be kept in hives all the year round, but especially in the spring months.

Editorial, Notices, &c.

USEFUL HINTS.

Weather.—It requires a long retrospect to recall so exceptionally fine an autumn as the present one. Bees have had a splendid time of it for several weeks past—everywhere we hope—but here in Kent honey has been gathered all through August, and is still coming in. Never before have we seen the unusual sight of hive-bees busily working on red clover; a few days ago, however, they were scattered plentifully enough over a splendid second crop of bloom, and no doubt gathering well from it. It is to be hoped that the abnormal warmth and continuous sunshine will make the heather yield a crop, otherwise bees will have fared very poorly, we fear, in the north and in Scotland, according to our reports.

Driving Condemned Bees.—In response to the request, on page 354 of last issue, we offer a few remarks on this subject, having direct and personal knowledge of several cases of similar trouble arising from mismanagement by amateur bee-drivers as bad as the one referred to. But after a full and varied experience of "driving expeditions" in years gone by, we can safely say there is no need whatever for causing such upsets in the apiary of the cottage skeppist as are recorded at times, if the work is properly carried out. In doing this the points requiring careful attention are (1) selecting a suitable day—*i.e.*, when bees are honey-gathering—and a shady spot some distance away from the apiary (the further the better) for the "driving," and extemporising a "bench" whereon to work. (2) Providing yourself with a good bee-veil, smoker, and a full supply of dry fuel for the latter, and an empty skep for driving into, with another to set on the old stand after removal of the stock to be driven. (3) See that everything required is close at hand before starting; this being attended to, fix the veil securely so as to protect the face, whatever may happen; this gives confidence. The operator never allows the bees to get the upper hand for a moment; if easily subdued, use little smoke; if awkward, and inclined to be irascible, smoke them freely. All being ready at the "bench," with smoker and empty skep in hand, go to the skep fixed on for driving; blow a few puffs of smoke in at the doorway, and at once lift it (floorboard and all) and set it on the ground while the empty skep is put in its place to gather in the bees returning from the fields; give just one more puff of smoke to the full skep and carry it to the bench. Should the bees still remain quiet, use no more smoke before loosing the skep from its floorboard by means of a flat chisel, or an old knife. When free for lifting blow in a good whiff or two of smoke, then, at once, turn the skep bottom upwards and invert it in bucket already on bench. If, on combs being exposed, the bees are inclined to fly, give a little more smoke; but if quiet, at once pin the edges of the two skeps together in the usual way, taking care that the "hinge"—or joint—comes across the *ends* of the combs; then raise the front of upper skep at such an angle as gives a good view of the bees, and fix the "driving irons" firmly in opposite sides of the two skeps. Unless bees are active or restless, give no more smoke, but begin rapping, not so vigorously as to loosen the combs, but sufficiently so to make the bees move pretty quickly. Once they begin to "run," a slight tapping usually keeps them going, and this is continued till the bees are practically in upper skep. This done, take out the driving irons, lift off the skep with driven bees, and throw a cloth over the full one. Carry the former to the old stand and substitute it for the decoy hive placed there, prop up the front a little to allow the bees shaken from the "decoy" to run in. Return to the covered-up skep of honey, brush out with a feather any straggling bees left therein, and carry it indoors out of harm's way. When all is quiet, a second skep may be operated on as before. And so on. (4) In the very rare cases where bees immediately turn vicious on starting to "drive," use the "close driving" method: that is, tie a cloth round the junction of the full and empty skeps, so that no bee can escape, and bind them together with the driving irons; then proceed as with open driving. Continue rapping until the loud hum in upper skep tells that the bees are well "up." If the driven bees are to be carried away in the small boxes used for the purpose,

they must be run into these directly after driving, and the boxes fixed up on the original stand to gather in the flying bees as before.

Replying to the question, "What to avoid in driving cottager's bees," we would say the bee-keeper, who has had little or no practice in "driving," should avoid such a task altogether till he has gained both nerve and experience.

WINTER PACKING.—By which is meant securing every advantage tending to secure in the early spring good and prospering colonies of bees for next season's work. To this end we need (1) A young and prolific queen, with plenty of bees bred in August and September. (2) A set of good, straight worker-combs, with not more than a fourth of one comb in the hive containing drone-cells. (3) About 20 lbs. of sealed food in the combs, so arranged as to give facilities to the bees for reaching the food by providing passage ways above tops of frames. (4) Good ventilating arrangements, and warm coverings above frames. (5) A sound dry hive with rainproof roof, and entrance capable of protecting the bees from chilling cold winds. It is now generally admitted that a light inner hive of sound material—with a light outer-case, large enough to allow from 1 to 1½ in. of air space on all sides—will winter bees quite as safely as one with heavy double walls, cork-packed sides, and all the rest of it.

In such a hive, with its floorboard freed from the past season's débris, its proper quantity of naphthalin placed thereon, and the above enumerated requirements seen to, may be regarded as safely and well packed for winter.

BEES AT SHOWS.—Not the least of the trouble caused by bee mismanagement through lack of experience, may be named the "upsets" we occasionally hear of through bees at shows. The latest of these reaches us through a press cutting, which read as follows:—

"If it be conceded that a bee ought to know good honey when he sees it, then it must be admitted that, judging by the number of the industrious insects which swarmed into the small tent at the Westend show on Wednesday afternoon, August 14, the honey there on view was superfine in quality. The exhibits were so remarkably attractive to all the representatives of the genus apis which came within the circle of their influence that they virtually converted the tent into a monster apiary. Nobody seemed inclined to dispute possession with them, and the visitors to the show contented themselves with a mere peep in at the opening of the tent, within which the bees buzzed approbation and improved the shining hour by feasting on all the honey which was not secure from their depredations."

THE COMING DAIRY SHOW.—Mr. H. W. Seymour may, we think, confidently reckon that his suggestion [2172, p. 356] will be discussed in a few days by those who have the responsibility of ordering the arrangements relating to the coming Dairy show exhibit.

LADY CANDIDATES FOR EXPERTS' CERTIFICATES.—It was our pleasant task the other day to participate for the first time in conducting an examination of lady candidates for 3rd-class certificates of the B.B.K.A. The candidates were students of the Horticultural College, Swanley, Kent, and probably would not have been singled out for special mention here but for the very agreeable surprise we experienced on finding so much of general aptitude for the practical work of bee-keeping—particularly where the hard manual labour comes in—on the part of the candidates. It may be, and most likely was, the spirit of advancement characterising the present day which made one nearing the sixties regard with a certain amount of amused wonderment the determination and pluck which enabled refined and highly cultured ladies to engage in work heavy enough to tax the strength of a strong country girl. But so it was, and heavy skeps chokefull of bees and honey were tackled with an amount of energy and courage worthy of all praise. Though the day was hot, and, as some would think, likely to make bees "hot" too, there was neither fear displayed of the bees or their stings, or half-heartedness in "driving" them. To have found the students well versed in the book-lore of the subject was—in view of their technical training at the college—naturally expected, and in this our expectations were fully realised. But it was highly satisfactory to find the young ladies as intelligently courageous in handling bees as the best of male candidates we have met. Thus, what we feared would be a weak or failing point in the ordeal, was gone through with much credit, while in the "oral" exam. they passed very well indeed, and it affords us much pleasure to record their success.

UNIVERSITY EXTENSION COLLEGE, READING.

We have been requested by the secretary to publish the following pass list issued by the Oxford and Reading Joint Committee for Agricultural Examinations.

"The awarding examiners in the Agricultural Examinations held under the authority of the Oxford and Reading Joint Committee have issued the following pass list : Certificate in Agriculture, John Francis Adams ; Dairy Teacher's Certificate, Jane Forster ; Diploma in Agriculture, first year's examination, passed in all subjects, Thomas Edward Gunter, Leyton Price Richards and Charles William Thorp ; passed in all subjects except biology, Claude Reginald Powell ; passed in all subjects except chemistry and physics, Edward Thomas Brown ; passed in biology and geology, Eric Dowson ; passed in geology, Clement Hugh Weston Malet. The following were the examiners :—Professor E. B. Poulton, F.R.S., Professor A. H. Green, F.R.S., Mr. D. A. Gilchrist, B.Sc., Mr. A. F. M. Druce, Mr. W. J. Glasson, M.A., Professor J. W. Axe, Mr. E. Brown, Mr. W. W. Fisher, M.A., and Mr. H. N. Dickson."

[Though, up to the present time, only a small beginning with apiculture has been made at the College, it is we believe intended, so soon as circumstances permit, to take up the subject definitely as a part of the curriculum, and to establish courses of lectures and periodical examinations in bee-keeping.—EDS. B. J.]

SOUTH OF SCOTLAND B.K.A.

ANNUAL SHOW.

Conjoined with the horticultural show, the members of the South of Scotland Bee-keepers' Association opened their annual exhibition in the Drill Hall, Dumfries, on Tuesday, September 3. Formerly the show was a partly open one, but this year it was confined to Scottish exhibitors, with the result that the English exhibits, which were formerly a by no means unimportant part of the exhibition, were missing. Under the auspices of the society Messrs. J. & R. Thyne, Glasgow, and Messrs. Kerr Bros., Dumfries, displayed a number of articles useful to bee-keepers. The present honey season has been the most unfavourable for many years, and on this account, added to the restriction referred to above, the entries fell far short of previous shows. The exhibits were, however, of a most creditable character. The arrangements for the show were ably superintended by the hon. sec., Mr. John Currie. Colonel Bennett, Alloway Park, Ayr, acted as judge, his awards being as follows :—

Three 1-*lb. Jars Extracted Honey.* — 1st, Wm. Hogg, Castle-Douglas ; 2nd, W. Graham, Cummertrees ; 3rd, Ross & Kerr, Dumfries ; h.c, J. Currie, Dumfries.

Three 1-*lb. Sections.*—1st, Ross & Kerr ; 2nd, Wm. Hogg ; 3rd, Peter Jeffrey, Kinmount.

Display of Honey.—Ross & Kerr.

Super under 25 *lb.*—1st, W. Hogg ; 2nd, J. M'Donald.

Super under 15 *lb.*—1st and 2nd, W. Hogg.

Super under 7 *lb.*—W. Hogg.

Bell Glass.—J. Boyes, Auldgirth.

Twelve 1-*lb. Sections.* — 1st, W. Hogg ; 2nd, Ross & Kerr ; 3rd, J. Learmont, Balmaghie.

Six 1-*lb. Sections* —1st, Ross & Kerr ; 2nd, J. Learmont ; 3rd, P. Jeffrey ; h.c., W. Hogg.

Two 1-*lb. Sections.*—1st, Ross & Kerr ; 2nd, J. Learmont ; 3rd, W. Hogg.

Six 2-*lb. Sections.*—1st, Ross & Kerr ; 2nd, W. Hogg ; 3rd, J. Richardson.

Three 2-*lb. Sections.*—1st, W. Hogg ; 2nd, Ross & Kerr ; 3rd, J. Richardson.

Twelve Jars Extracted Honey.—1st, Ross & Kerr ; 2nd, P. Jeffrey ; 3rd, J. Currie.

Six Jars Extracted Honey.—1st, Ross & Kerr ; 2nd, J. Coyd, Kinmount ; 3rd, W. Graham.

Two Jars Extracted Honey.—1st, W. Hogg ; 2nd, J. Learmont ; 3rd, Ross & Kerr.

Run Heather Honey.—J. Scott, Langholm.

MEMBERS OWNING NOT MORE THAN SIX HIVES.

Six 1-*lb. Sections.*—1st, R. M'Naught, Auldgirth ; 2nd, Jardine, Dumfries ; 3rd, J. F. Hyslop, Carse Mill, Auldgirth.

Two 1-*lb. Sections.*—1st, W. Graham ; 2nd, R. M'Naught.

Super under 12 *lb.*—1st, J. M'Donald ; 2nd, A. Geddes, Shawhead ; 3rd, Jas. Boyes, Burnhead.

Six Jars Extracted Honey. — 1st, W. Graham ; 2nd, J. Coyd ; 3rd, J. Richardson.

Two Jars Extracted Honey. — 1st, W. Graham ; 2nd, Jas. Coyd ; 3rd, J. Boyes.

Besides the above, prizes included silver cups and medals, presented by various donors, and in addition a large number of medals were offered by the Association.—*Communicated.*

NOTTS BEE-KEEPERS' ASSOCIATION.

MOORGREEN SHOW.

The bee section of the show proved most attractive to visitors, who surrounded the "Observatory" hives during the afternoon of the 3rd inst., watching intently the busy animated scene within. The honey shown at Moorgreen was of excellent quality, and the show was altogether interesting. Mr. P. Scattergood, jun., officiated as judge of honey, and made the following awards :—

Best Specimen of Bees of any race, with their Queen, in a Unicomb Hive.—1st, A. Warner ; 2nd, G. Marshall ; 3rd, H. Wiggett.

Twelve 1-*lb. Jars Extracted Honey.*—1st, G. Marshall ; 2nd, W. Lee ; 3rd, S. W. Marriott, Nottingham.

Best Twelve Bottles of Honey (members with apiaries within five miles of the show ground).—1st, W. Brooks, Eastwood ; 2nd, A. Warner, Moorgreen ; 3rd, G. Reeve, Moorgreen.

Best Frame of Honey (in case).—1st, Marshall, Norwell ; 2nd, S. W. Marriott, Nottingham.—*Nottingham Daily Express, September 4*, 1895.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

"NOTES BY THE WAY."

[2176.] With the month of September our work in the apiary will—or should—draw to a close. The past fortnight has been a blessing to bee-keepers who have had driven bees to build up into stocks for another season or who have added them to stocks depleted in number from any untoward circumstances. The glorious harvest weather, broken only by one or two thunderstorms, has been an ideal time for the late harvest, and I trust our brethren in the craft in the far north have had a good time with their bees on the heather. I have had a few reports from "ayont the Tweed" of a very satisfactory character.

In the south and midlands bees seem to have been able to add considerably to their winter stores, and those on the alert for the best results and who do not do everything according to rote and rule, but use their own judgment, have had the pleasure of taking of crates of sections, fairly filled and sealed, at the end of August and early in September. In my own apiaries this has made a great difference ; these sections, if taken off in July, must have been extracted, now they are saleable, and though not of the highest quality are marketable as No. 2 grade sections.

I would impress on bee-keepers the desirability of watching the forage of their immediate neighbourhood if they wish or hope to make the best of bee-keeping from a £ s. d. point of view.

The bee-keeper should also know in what condition his stocks are. If brood-combs are poorly stored, supers should be removed earlier than where the brood-chamber is full of food ; in the former case, the late harvest would save both labour and expense in feeding, and in the latter the supers still left on would prove a great help to the colony, as the brood-combs would be used for brood, while any surplus honey could be put in the supers, thus benefiting both bees and bee-master.

Do Bees carry Eggs?—Mr. W. H. Brice and his friend, Mr. Scattergood, may have satisfied themselves on this point, but I think the majority of bee-keepers, both scientific and practical will require further proof before they accept the assertion that the bees did carry the eggs in this particular case. To further elucidate the matter under discussion, will Mr. Scattergood kindly say what style of cage was used, and why the queen was caged from the Friday until the following Monday ; was the cage open for the queen to be released by the bees after the feed-hole was cleared of food ? If so, it is just possible that the queen may have returned to the cage if in its near vicinity, and Mr. S. may have inspected the hive just as the queen had re-entered the cage. I have no wish to cast doubts ; all we want is "more light" on a certainly interesting subject.

Broad Top Bars.—The present season has proved conclusively to my mind that the wide top-bars for brood frames made for me early last season by Abbott Bros., are a great advance on the ordinary width generally in use. The advantages of the wider frame are better shaped combs, no brace-combs between the sides of hives, and the sides or ends of frames, and *none whatever* on the top of frames between frames and bottom of sections. I have had inquiries from bee-keepers during the summer respecting these frames, and am pleased to say they are a decided improvement. I lifted off a crate yesterday from a hive fitted with the wide frames, and there was not a particle of wax on either the tops of frames or bottom of sections, or on the slots of wood on which the sections rested, the only adhesive matter being lines of propolis showing the position of crate when on the hive. This has been my experience in every hive in which the wide frames are used. These frames and a super-clearer makes the labour of bee-keeping light compared to what it was only a decade or so back. A question was asked in your columns some little time ago *re* glass covers for winter. I used a glass hive some years ago, having a glass cover in two pieces fastened together with gummed paper. There was a bee-space over the frames, and the hive was covered with an outer case of wood, allowing a good thickness of dry-chaff packing all round, and I heaped on the chaff at the top. The bees wintered well in it, but when the summer sun blazed down on it—radiated also off a high wall behind my beautiful super—made of glass to fit the hive—melted and the honey ran out of the entrance. This I secured, but the poor bees perished, drowned, and suffocated in their honey.—W. WOODLEY, *Beedon, Newbury.*

PROTECTIONIST SCHEDULES.

[2177.] In your issue of this day, Mr. E. D. Till [2168, p. 355] complains of the "strictly protectionist" classes of certain societies, mentioning the L. and C. B.K.A. Now, if I remember rightly—and my note in the catalogue confirms it—this very gentleman gained first honours at the Preston Show, where there were not only "open classes," in which, as I say, he gained first prize, but he gained that prize by a stretch of courtesy, for he palpably broke an important regulation which declared that no mark or label must appear on the bottle or exhibit beyond the number supplied by the society. Whereas I failed to find the catalogue number on any of his bottles, and they were all labelled with the Kent B.K.A.'s label. I may mention that many noticed the infringement, and wondered at the award. The Birkenhead and Audlem Shows—indeed, all the big shows—have open classes, and my experience is that only at the very small district shows are the classes confined to members only.—FREDERICK H. TAYLOR, *Local Hon. Secretary, L. and C. B.K.A.*

[No doubt our correspondent Mr. Till will say a word in reply as to the above in our next issue. We may, however, observe that the Preston Show cannot be regarded as involving the L. and C.B.K.A., seeing that the County Association took no part in the arrangements of the show or of the schedule. Had they done so it is, we hope, not too much to say that the county label—to which praiseworthy prominence is being given by the Association represented by our correspondent—would not only have been freely allowed on exhibits, but its use strongly urged on all members' honey, as is done by all County Associations who have adopted the "label." It is no mark of "ownership" to see a *county label* on an exhibit, and this was the view taken by the gentleman who acted as steward of the bee department at the Preston Show, and of the writer, who made the award in question.—EDS.]

NOTES FROM SOUTH DEVON.

[2178.] Circumstances having recently led me into the south-west corner of Devonshire, a district from which we seem to hear little of bee-keeping, and into the acquaintance of a bee-keeper of some years' standing, a few notes of what I saw and heard as regards the industry in that district may not be without interest. Mr. Patey's apiary, consisting of about thirty stocks of bees, is situated in the heart of the hamlet of Chillington, where the owner carries on his daily business, some five miles to the south-east of the town of Kingsbridge. This gentleman was led to take an interest in bees now many years ago, and was advised from the first by his then rector to adopt bar-frame hives, and to have nothing else in his apiary. This advice Mr. Patey has strictly followed to his advantage. He has never had the benefit of any expert advice other than that afforded by a diligent study of the "Guide Book" and "Record" and the results of his enterprise, successful as they have been, are evidence of what can be done by an otherwise busy man determined to succeed with bees. I found Mr. Patey practising with every variety of hive from the highly-finished production of the factories of Baldwin or Abbott to the humble hive of home make, but his experience has led him to adopt nothing but a ten-frame hive as the most profitable working size. I was privileged to examine most of the stocks, and was interested to see them in such order and condition as betoken healthy and profitable bee-keeping. Stocks were uniformly strong, and were being fed where necessary for the winter. Queen-rearing had been attempted in the apiary as a matter of curiosity, but no systematic method of requeening throughout had been adopted. Although atmospheric conditions were against it, bees were unusually quiet upon handling, but I thought them a small variety, and that judicious crossing with new strains would be an advantage. The owner admits that the earlier profits from his stocks have shown a tendency to decline recently, and this may be due to the want of strong, well-chosen queens, and new strains of blood. Mr. Patey has never had foul brood among his stocks and does not know of any case having occurred in his neighbourhood.

I understand that the honey-flow in this district is of short duration. Although generally wintering well, bees are not expected to be working in supers until June, and by the middle of July the flow is supposed to be over. In the apiary in question swarms have never been abundant, and are not to be had earlier than the middle of June.

The yield of honey during the past summer has not been more than an average one to Mr. Patey, and he tells me that the experience of most bee-keepers in his neighbourhood is similar.

To my own knowledge the keeping of bees by cottagers in straw skeps is very usual in South Devon—I am told that there are comparatively few apiaries where modern methods are adopted—and it is quite usual for "skeppists" to adopt obsolete and barbarous practices for securing their honey. I found Mr. Patey busy establishing sundry colonies of condemned driven bees, and he tells me that he has no difficulty in securing as many condemned stocks as he can take.

In the neighbourhood of Kingsbridge there are some few gentlemen who are interested in bee-keeping on modern scientific principles; and, chiefly through the instrumentality of the Rev. Mr. Adie and Messrs. Parkhouse and Skinner, all of whom are bee-keepers, an exhibition of honey and bee appliances was recently held in Kingsbridge, said to be the first for twenty years.

The classes for honey were fairly well filled,

and the quality of the exhibits was exceptionally good, the first prize in the class for 12-lb. sections going to Mr. Patey, of Chillington.

Surely there is material here and elsewhere in the county for the reinstatement of a Devon County Association.—J. W. JACOMB-HOOD.

THE COMING DAIRY SHOW.

[2179.] Will you please allow me to remind all who are able to send good exhibits to the "*Dairy* Show" that post entries will be received up to September 16 at 1s. 3d. extra? I hope no one who feels disposed to exhibit will miss this further opportunity.

Last year the judges' report expressed the belief that honey in all forms, and particularly in commercial packages, would become a very prominent feature of the Islington show.

If our bee-keepers will but support the classes liberally, the "Dairy Show" will be recognised by buyers as the Annual Honey Fair of the Metropolis—this is my chief reason for craving a corner of the journal. Much honey changed hands last season. I believe a good deal more will be sold this.—E. D. TILL, *Eynsford, September 7th.*

DRIVING AND HIVING BEES.

ANOTHER EXPERIENCE.

[2180.] Seeing the letters *re* "Driving and Hiving Bees" in your issue of September 5 (p. 354), I venture to ask if you can explain my late experience in that line.

On a fine hot day in the middle of last month I went to "take" two condemned stocks of bees in skeps for a cottager. The stocks were two or three years old, and well populated. About five o'clock in the evening I began work by puffing in a little smoke, and after a few minutes inverted the hive. Immediately I did so, the bees made a "dead set" at me, even before I had moved a yard from the stand. Fortunately I had on my veil, but they attacked me furiously, crawling up legs and arms, and busily creeping under my coat. I persevered, however, and after sprinkling with a little syrup and waiting some quarter of an hour (the hive still inverted) I drove the greater part of the bees without further trouble. I then tried the second skep, and before otherwise touching gave a little smoke three times and about ten minutes for them to have more opportunity to fill themselves. But it was of no avail, for again on moving the hive I was so furiously attacked that I had to retreat and take refuge in a clump of bushes. Nor did sprinkling with syrup in this case allay the anger of the bees, and I was obliged to leave them till dark, when they met with the fate from which I would have saved them, viz., suffocation by brimstone.

The skep I succeeded in driving had a large quantity of honey, nearly all sealed, and very little brood. There were about two or three quarts of bees, and allowed themselves to be hived in a bar-frame hive, and subsequently examined without further hostility, and are now working well and raising brood.

I may mention that I have driven bees many times before, often without any protection, and have never had a similar experience. The owner gave the bees a good character; and I examined the other hives at the same time, without protection, smoke, or any attempt on the part of the bee to attack me. I enclose my card.—"BADLY STUNG," *September* 7.

[There are at times days when, from some unaccountable reason, bees are very irascible and easily roused to anger, and, when this is so, more drastic measures that ordinary are needed. To have seen our correspondent at work would no doubt soon disclose the weak point in his modus. But not having this advantage, we can but suppose that his failure arose from not giving the bees a second dose of smoke just before inverting the skep. The subject of "driving" is dealt with in "Useful Hints" on another page—EDS.]

WOOD COVERS FOR HIVES.

[2181.] I have much pleasure in replying to your correspondent, "A Worker" (2171, p. 356). I very rarely contract my hives, and when I do, dummies 2 in. wide, filled with chaff, are used. The bees are allowed to run over the tops of the dummies. I gave up using the ordinary dummy some seven years ago, and I find my bees winter best on ten or eleven frames. I use two blankets, 18 in. square, on the top of wood cover, and when a box of candy is put on I add two more blankets.

I do not find that the tops get displaced; but if they did I should adopt some plan to prevent it, such as a strip of wood 18 in. long, with a 1 in. block of wood fixed to each end, which would act as a cramp, and keep the three pieces together.—R. T. SHEA, *Southend, September* 7.

CONCISE CONTRIBUTORS.

[2182.] Your rhyming advice to correspondents referred to by T. Long (2170, page 356) is evidently most necessary. "Queries and Replies," September 5, contains some effusions of querists from which I can certainly cancel no less than one-third of the words with advantage to sense and clearness. Thus sender, receiver, compositor, and reader are alike burdened with an unnecessary task, all but the first named reflecting that in-

structive matter might have been profitably substituted. "Backslider" (2163, page 347, August 29) robs us of no less than a column and a half by inconclusive cavil and reference to the practice of his "good old grandmother," little suspecting that were she still living she would lecture him soundly for daring to instruct her in the art of extracting the embryo juices of an egg by suction. I should like to ask seriously, in the pages of the JOURNAL, the following question—Have bee-keeper correspondents a conscience?—B. SHORT.

HERTFORDSHIRE BEE-KEEPERS AND THE "BATH AND WEST" SHOW.

[2183.] The "Bath and West" will open its annual show at St. Albans on May 27, 1896. It is most regrettable that so important a meeting, and, moreover, one so near London, and to which thousands of Londoners who are buyers and eaters of honey will come, should be held in a county which possesses no association to represent its bee-keepers. Hertfordshire produces good honey, and Hertfordshire has some excellent bee-keepers. Here is a splendid opportunity to be lost to the bee-keeping of the county, and I may say to Great Britain also, for the lack of a little Hertfordian public spirit. It may not yet be too late to move. One zealous man could do a lot if he stirred at once, but is one to be found?—A PRIOR.

AN ASSOCIATION FOR HERTS.

CAN IT BE RE-ESTABLISHED?

On Wednesday, the 4th inst., by permission of the committee of the St. Andrew's Parochial Cottagers' Flower, &c., Society, a small exhibition of bees, honey, wax, mead, &c. (the first exhibit of the kind for many years), took place at Watford, in the grounds belonging to Lady Longden. Besides an observatory hive stocked with bees and queen, the display consisted of sections, extracted honey (liquid and granulated), and shallow frames. There was no competition, the object of those interested being simply intended to ascertain if the bee-keepers of the district were disposed to make an effort to re-establish an association for the county, or, failing this, for the district, which should embrace the whole of West Herts.

The tent of the B.B.K.A. was also erected for the occasion, in which manipulations of live bees were undertaken by two local bee-keepers, and a few explanatory remarks made by a member of the B.B.K.A. on the difference between the old and the modern methods of keeping bees, questions being answered and advice given. Altogether it was considered to have passed off very satisfactorily, and hopes were raised that the result will be the formation of a county association and a good show in succeeding years.—(*Communicated.*)

METEOROLOGICAL SUMMARY.

AUGUST, 1895.

Locality, Stoke Prior, Worcestershire.

Height above sea-level, 225 ft.

Rainfall, 2·41 in. In August, 1894, 2·26 in. rain fell.

Greatest fall in 24 hours, 0·48 in. on the 2nd.

Rain fell on 20 days. In August, 1894, 19 days.

Max. shade temp., 75° on the 16th, 17th, 18th and 22nd; max. for August, 1894, 72°.

Min. temp., 39° on the 7th; min. temp. for August, 1894, 36°.

Max. shade temp. at 9 a.m., 65° on the 15th, 20th, and 21st.

Min. temp. at 9 a.m., 53° on the 12th.

Frosty nights, nil. During August, 1894, nil.

Max. barometer, 30·0 on the 15th, 16th, and 17th.

Min. barometer, 29·2 on the 4th.

The first half of the month cold and wet, but the latter portion very warm and dry during which period the bees were busily working the clover and borage from early morning until evening. Quite a luxuriant crop of aftermath, in some places nearly ten inches in length. Some heavy dews. Wasps numerous. Contracted entrances a necessity. Those bee-keepers who advocate early "feeding-up" for winter have had grand weather to carry out what they recommend. — PERCY LEIGH, *Beemount.*

Queries and Replies.

[1359.] I live about the middle of a row of eighteen houses, with gardens at the back 20 yards long and 5 yards wide, running from north to south. The hives therefore face direct east on my strip of land, and my path of necessity runs in front of the hives. I have kept my bees in that position for six years without a single complaint, but this year one of my female neighbours unfortunately got stung, and as it caused her eyes to swell a good deal she sent for the doctor, who pronounced it erysipelas, and in consequence it got announced in the district doctor's report as an infectious disease from the sting of a bee. I, of course, declared it was all nonsense, person stung having quite got over the trouble in three days; but I am in an uncomfortable position. What I want to know is: Do you think a bee-house would prevent the bees flying and annoying the neighbours when I am looking through the hives? (for they never

cause alarm or trouble at other times.) I am anxious to examine my bees now, but fear to do so on account of my neighbours. I tried to do it at night by candle-light, but that is out of the question. I did, however, take the supers off at night, but the bees crawl all over one from head to foot. I thought of making a bee-house of corrugated iron. Do you think that would answer? I have kept bees now about a dozen or fifteen years, but I am afraid it is all over with my bee-keeping now, though I have joined the County Association, and have done well at shows. What makes me write to you for advice is the remarks of Mr. Brice in the JOURNAL the other week about bee-houses. I shall be much obliged if you give me a reply in JOURNAL.—CHARLES SLATER, *Wellingboro', September* 3.

REPLY.—That a bee sting is an "infectious disease" is, of course, nonsense, although by injudicious treatment it might, as in the above case, lead to something more serious in a person whose constitutional weakness renders him or her receptive to certain disorders. There is no doubt that bees in a bee-house, when under manipulation, show less inclination to sting than those kept in the open; but if our correspondent's bees are at all inclined to be vicious, we would suggest that a gentler strain be kept, and that manipulations should be carried out in the early morning, before the neighbours are about.

[1360.] *Dealing with Unfinished Sections.*—I have about two dozen unfinished sections, some almost finished, and wish to give the honey to the bees, but don't want the trouble of extracting and then putting them on again to be cleaned up. 1. May I uncap and put them in a rack over a hive short of stores, or is it better to keep them for finishing next year (which I would rather do if they would keep good)? 2. How long will sections keep without the honey granulating, or are they at all eatable when the honey is granulated? 3. Are there any "metal ends" that will do when you have got already four or five hives with broad shouldered frames?—W. J. H., *Norwich.*

REPLY.—1. They should be given to the bees to clear out at once. 2. It is not safe to say how long honey in sections will remain liquid. Sometimes they may be kept for a year without granulation; at others the honey becomes solid in a few weeks. The honey is, of course, eatable when solid in the comb, but not so nice. 3. Broad-shouldered frames are supposed to dispense with metal ends.

B. TAYLOR'S LATEST HIVE.

I see you still wish bee-keepers to give their ideas in regard to small or large hives. I have tested more styles and sizes of hives in my forty-five years of apiarian experience than any other bee-keeper I know of. To me it is a great pleasure to realise that I know a thing in counter-distinction to merely believing it, for belief may be founded on either truth or error, and we must not forget that error is no less harmful because honestly entertained. "Prove all things, hold fast to that which is good."

Many years ago I made four large hives that contained 4,000 cubic inches each. I expected to get large yields of comb-honey from them. I reasoned that, by clover time, these large hives would contain gigantic colonies of bees, and would not be likely to swarm. Well, I believe they never did swarm during the three or four seasons I used them; but the giant swarms were never ready at the right time when the white-honey harvest came. Each season these big hives would contain no more bees than hives with 1,200 in. of comb capacity, and I never got any surplus from them worth mentioning, while what they did give was simply dark fall-honey. You see, they had ample room in their big brood-chambers to store all the white honey not used in raising the great colonies of bees that always remained at the end of the season. This immense force would, before spring, have consumed nearly all of the large store of honey which such hives always contained at the commencement of winter; but, being old bees, most of them would be dead before a new force of young bees could be raised the following spring to take the field, and they would have to build up again from about the same condition as swarms in small hives, with this disadvantage—that the large hives did not utilise the heat of the colony nearly as well as the smaller ones in the cool weather of spring.

A year or two ago we resolved to discontinue further general experiments in testing hives, and selected from the fruits of our experiments the hive and system that actual experience had taught us would give the best results in white surplus-honey, either comb or extracted, with the least amount of work, and be good at the same time for wintering and breeding up colonies in the spring. And now, friend Root, to describe just how these hives are constructed, and the reasons for them, and the system of using them, will give a clearer explanation of my present understanding of the *best* hive than any other words possibly could.

The new hives are 16 in. square, outside measure, 14¼ in. inside, and the bodies are 9 in. deep. The frames are 13½ in. long by 8¾ in. deep. Each frame contains 100 in. of comb-surface, and we use ten of them in a hive. The hive thus contains 1,000 cubic inches of comb-surface. This, according to the common popular understanding, is a small hive. And now for the system of using. We hive new swarms on eight combs, two dummies being used in place of the outside combs. Each hive will have given to it all supers of

sections filled with either finished combs or foundation, or part of each that they can use. At the end of the white-honey season (basswood here) we remove the surplus cases, take out the two dummies, return the combs, place a queen-excluding honey-board on top, and on this another hive, either a new one filled with foundation or one filled with bees and brood from which a swarm has previously issued. If the last is used we see that the queen from the new swarm is removed, and the old swarm with its young queen put under. We want no brood raised further in the top hive. As the brood in the top hive hatches the combs will be filled with fall-honey. If the flow should be good other hives are added as needed until the end of the season. At the end of the honey season we take off all hives above the queen-excluder, having, a day or two previously, put an escape-board under them, and run all the bees into the parent hive below, which hive will be examined as to stores, and, if lacking, an abundance given from the filled combs of the top hives taken away. We winter the colony in a single hive. They are easier to handle, take less room in the cellar, and we know that, with us, a small hive with a good colony of young bees, and plenty of stores, is in the best possible condition for cellar wintering.

In the spring the colonies are removed to the summer stands. These stands have room for two colonies each, but we put only one colony on the stand until swarming time. Previously, however, we shall have added to each colony a second hive taken from those used on top last fall, and more or less filled with honey, not adding the second hive until the first one is well filled with brood, as the bees breed up much better in small single hives in the cool weather of early spring.—*Gleanings.*

(To be concluded next week.)

Echoes from the Hives.

Honey Cott, Weston, Leamington, September 7.—At last I have taken off all surplus receptacles, and got the bees down into the brood-nests. As a rule, I find the latter crammed with stores for winter. I have had a fair yield both of comb and extracted honey, and think I may fairly say that, for this season at least, I have a non-swarming race of bees. Having had so few swarms, I transferred two stocks from skeps this last week; I deferred the job, thinking I would let the bees stand as they were for the winter, but circumstances made me alter my mind. Having plenty of combs of sealed honey by me, I placed about six of these in a frame-hive, and lifted the skep off its stand, and set the frame-hive with its combs thereon to catch the flying bees. Then after driving the bees from skep, I threw them out on a tray to let them run in, first securing the queen, putting her in at the entrance and letting the bees follow her as they liked. A week ago I was driving three stocks for an old bee-keeper; the bees were very quiet, and after I had done the job, I said to the man, "I suppose I need not caution you to keep every trace of honey covered up and let none get about." Oh, yes they quite understood that (the man and his wife), I saw them again in a day or two, and they said "they had been bothered very much with the wasps and bees." I then asked if they had done anything to start them? Well, the old man said he had just put the skeps outside for the bees to clean out, and trouble resulted in consequence, although it was not very serious in this case, perhaps the old lady who allowed some one to drive her bees, as recorded in 2166 p. 354, did the same thing. I was rather surprised to read of a correspondent of yours advocating the old-fashioned way of getting the bees out of supers by taking them in the shade of trees in a box, &c. It might act all right sometimes, but for clearing supers the Porter bee-escape for me. The only failure I have had with it was caused by a bee getting jammed between the spring; but for combs in shallow frames or standard frames I usually shake the bees off with little trouble. About the beginning of August I had to get some stocks ready for taking away on the evening of the same day, of which I had notice by post during the morning. As these stocks had surplus receptacles on at breakfast time, I raised under each of these a bee-escape, and at dinner time the bees had vacated the lot. At night I lifted the hives on to fresh bottom boards, having put a strip of wood 1 in. deep to the two sides and back to give air-space below, and placing two strips across tops of frames, tacking strainering over these, and finally closing up with a piece of zinc at front. I could not possibly have got these stocks ready at so short notice but for the bee-escape.—JOHN WALTON.

Ballaugh, Isle of Man, September 2, 1895.—The season now ending is the worst known in this district for beekeepers. The year came in with gales of wind, hard frost, and then a "blizzard," which so damaged the furze (the chief spring supply) that where feeding was neglected the bees were very weak. Then the spring and summer were so dry that our bee flora was a total failure. Most of the beekeepers around have no surplus at all. Two or three have had an average of about 12 lb. per hive. My own hives of native blacks have only averaged 15½ lb. each. Last year they averaged 53 lb. A hive of Ligurian-English bees have given me 80 lb. This is their first season. Strange, is it not, with all hives side by side, that there should be so much difference in the results? I have only heard of one swarm in the district. The number of stocks, about forty, are mostly on frames.—"BEE."

Bee Shows to Come.

September 11 and 12.—At Derby. Annual show of the D.B.K.A. in show grounds of the Agricultural Society. Eighteen classes. Entries closed.

September 28. — Roxburghshire B.K.A. Annual Show in the Corn Exchange, Jedburgh. Numerous prizes. Entries close September 24. Thos. Clark, Secretary. Pleasants, Jedburgh.

October 8, 9, 10, and 11.—Dairy show at the Agricultural Hall, London. Liberal prizes in five classes for honey. Open to all. Entries close September 9. For schedules apply Wm. C. Young, sec. Dairy Farmers' Association, 12, Hanover-square, London.

October 19.—Lanarkshire B.K.A. annual show of honey and bee appliances (appliances open to all), in Public Hall, Larkhall. Also general meeting of members same day at 5 p.m. Entries close October 12. Schedules from John Stevenson, secretary, Merryton Braes, Larkhall, N.B.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

W. S. Brothers (Dewsbury).—*Making Bee-syrup.—Earwigs in Hives.*—1. As we reminded "A. B. T.," on p. 360, one pint of water should be added to each 2 lb. of sugar in making bee-food for autumn use. That proportion makes the syrup quite thick enough. 2. Powdered naptbaline sprinkled about quilts and coverings will keep earwigs from harbouring there. 3. Queen excluder zinc is not suitable for a "Wells" dummy. 4. It has been proved in practice that two compartments are quite sufficient for a "Wells" hive, and that any number beyond two only increases the risks of failure. 5. A slow-feeder must be so made that bees can only get at the food through a very few very small holes. To allow a single bee-way to a rapid feeder would in no sense make a slow feeder of it, seeing that a continuous file of bees might be passing in and out.

A. D. Hughes (*Anglesea.*)—*Very bad* case of foul brood. The stock should be at once destroyed, and combs, frames, and all belonging to it burnt.

J. H. Moore (Holmbrook Tower). — *Requeening.*—If you are sure the queen is four years old, the sooner she is deposed and replaced by a young one the better. Refer to past numbers of B.J. for method of introducing queen. If one is purchased, instructions will, no doubt, be sent along with queen.

Cordelia (Cheltenham).—*Bee Pasturage.*—1. Five acres of giant sunflower and five of white clover would largely supplement the ordinary forage of a district, and render much help to ten or twenty hives; but if chiefly relied on, would not keep profitably more than half a dozen. 2. 30 lb. per hive is a fair average yield. 3. Good honey is sold by the cwt. at 7d. to 9d. per lb., higher prices being obtainable in some localities.

H. W. R. (Cornwall).—In Nos. 1 and 3 of samples received the brood is chilled, but in No. 2 there is foul brood. There must be some reason for the presence of chilled brood in hives in the very warm weather now prevailing. Can you offer no explanation of it?

St. George's (Ely).—Referring to the reply to "Young Beginner" on p. 329, the frame mentioned is advised for removal "after brood is hatched out," in order to do away with so faulty a comb as patched-up ones generally are.

W. Burrows (Eskmeals).—The appearance of dried-up larvæ is that of chilled brood, but it is impossible to tell with any certainty whether the stock is affected with foul brood or not. We shall be very pleased to get a report from your district.

Kent (Tunbridge Wells).—*Loss of Bees.*—1. It would not surprise us if the bees had joined those of the stocks which plundered the hive of its stores. The dead bees sent are of the ordinary kind, common in this country. The few left in the hive have no doubt been killed during the fighting. Sample of comb bears evidence of the stock being robbed, nothing more. The second hive named has evidently suffered from same mischief as the first one. Regarding the third one, with "about five times as many drones as workers," it is not worth the trouble of re-queening.

T. W. (Kent).—1. Sugar will do very well, if pure cane. 2. Sprinkle powdered naphthaline among quilts to drive away earwigs from them. 3. No. Confining queen to hive by means of excluder zinc is not a proper course to prevent swarming. 4. Carbolic acid smeared about hive entrances tends to prevent robbing, but the doorway must not be reduced to one-bee-way in this hot weather.

A. T. D. (Stoke Gabriel).—*Feeding-up Bees.*—1. Bees should be fed with sufficient stores for winter at once. 2. Fermenting syrup should not be given to bees at all; it may cause damage. 3. Nos. 7 to 11 are suitable sugars for the purpose of autumn feeding. No. 4 would do for spring feeding.

S. Standing (Blackpool).—Comb contains nothing but honey and wholesome pollen.

Novice (Skelmanthorpe).—1. Comb is affected with foul-brood. 2. They may be evidence of queenlessness; we should destroy the bees and burn the combs. 3. Hive No. 2 is of no use unless a fertile queen be given and the drone breeder deposed.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION

Meeting of the Council held at 105, Jermyn-street, on Thursday, September 12. Present: the Hon. and Rev. H. Bligh, Rev. G. W. Bancks, W. B. Carr, H. W. Brice, J. H. New, E. D. Till, J. Garratt, W. O'B. Glennie, Treasurer, and J. M. Hooker, ex-officio, and John Huckle, Secretary.

Communications were received from the Chairman, the Vice-Chairman, and Mr. C. H. Hooper, regretting their inability to be present. The Hon. and Rev. H. Bligh was voted to the chair. The minutes of the last Council meeting were read and confirmed. The Finance Committee reported that the several accounts relating to the Darlington Exhibition had been paid. Payment of other accounts was recommended by the Committee, and the same were approved by the Council.

Correspondence was read (1) from Mr. Loveday, of the Essex Convalescent Home, asking for the loan of the Association's lantern slides for a lecture to be given to the patients in that institution. Resolved that Mr. Loveday's request be granted.

The Secretary reported that his attention had been called to the distribution of a circular issued by the Manchester District Bee-keepers' Association, setting forth that the association was in affiliation with the B.B.K.A., to which he had drawn the attention of the secretary, Mr. E. McNally. Correspondence between the Manchester District Association and the secretary of the B.B.K.A. was read. The Council having approved the action taken by the secretary in reference to the circular, a letter was read from the Manchester District Association requesting that the association might be affiliated to the B.B.K.A. Resolved that the secretary do communicate with the secretary of the Lancashire and Cheshire Bee-keepers' Association, directing his attention to the conditions of affiliation in reference to this subject.

Mr. Till reported on behalf of the Exhibitions Committee that application had been made for space at the Annual Exhibition of the Dairy Farmers' Association for the exhibition of honey and other exhibits in which honey formed an ingredient. Mr. Till further reported that several members of the Council had promised to be in attendance during the time of the exhibition, to give advice and assistance.

The following new members were elected, viz. :—

Mr. H. M. Turner, The Turl, Oxford.
Mr. Samuel Head, Ivybridge, Devon.
Mr. D. McGeachy, Pennyfuir, Oban, N.B
Mr. E. H. Taylor, Hive Works, Welwyn.
Mr. W. H. Patterson, Thursby Nurseries, Colchester.

The Council adjourned to October 10.

TECHNICAL INSTRUCTION IN BEE-KEEPING.

We invite the attention of the bee-keepers resident within reasonable distance, to the course of lectures on bee-keeping to be delivered in connection with the Durham College of Science, Newcastle-upon-Tyne. The course commences on Monday, September 30 (see Advertisement on another page), and will be continued weekly.

A SCHOOL OF AGRICULTURE FOR CORNWALL.

Callington District Technical Instructio Committee met on Wednesday, the 4th inst.; present, Mr. J. W. Lawry (chairman) and Messrs. S. P. Rattenbury, C. Rendell, S. S. Davey, C. Bolt, J. Bennett, and N. Rosekelly. Arrangements were made for classes during the ensuing year, and the following grants were allotted :—Science and art and continuation classes, £40; agricultural demonstration, £20; bee culture, £6; cookery, £10; carpentry, £10; dressmaking, £5; and library, £5. A discussion took place on the proposed scheme for the establishment of a central school of agriculture by the Cornwall County Council. The chairman explained the proposal, and thought the plan a good one and deserving of support. A resolution approving the scheme was carried unanimously. The secretary (Mr. W. Pearce) reported that the receipts for the sale of fruit and bees had up to the present been £9, that there appeared to be abundance of honey, and that the crops of potatoes and apples were very large, so that there was every prospect of the garden yielding a good return this year. The Chairman said the report was most satisfactory and encouraging. The result of the various experiments had exceeded the most sanguine expectations, especially the use of the Bordeaux mixture for the potato crop, and the large number of agriculturists who had inspected the garden that day spoke very highly of the results obtained, the work of the committee, and the appearance of the garden.—(*Communicated*).

THE DAIRY SHOW.

TO INTENDING EXHIBITORS.

Referring to the coming Dairy Show, the secretary writes us as follows :—"Would you kindly mention in next issue of your journal that I have received, in an envelope bearing Henley-on-Thames postmark, an entry of comb honey, without name or address of intending exhibitor, and that all efforts to trace the sender have, hitherto, proved fruitless. If this meets his eye, will he kindly communicate with me?—Wm. C. Young, Secretary British Dairy Farmers' Association, 12, Hanover-square, London, W.

DERBYSHIRE B.K.A.

ANNUAL SHOW.

The fourteenth annual show of the above association was held on the show ground of the Derbyshire Agricultural Society on the 11th and 12th inst. In consequence of the bad season, the entries in the local classes were not so numerous as last year, but the competition in the Open classes, both for sections and run honey, was most keen, all the exhibits being of excellent quality. A special feature of this annual show is the number of competitors in the classes for bees shown in observatory hives, no less than fourteen entries being staged, and during the two days of the show large crowds were attentively watching the bees, members of the committee being in attendance, pointing out the queen, and explaining the mysteries of the bee-hive. On Thursday afternoon the bee-tent was crowded with spectators watching the manipulation of bees in a skep and in a bar-frame hive, the exhibition being given by Mr. Joyce, one of the experts of the association. Mr. W. Broughton Carr officiated as judge. During the afternoon Mr. Carr also conducted an examination of several candidates for the third-class expert's certificate of the B.B.K.A. in the apiary of Mr. F. Walker, hon. sec. of the D.B.K.A.

The awards were as follows :—

HONEY CLASSES (MEMBERS ONLY).

Display of Honey in any Form, not to Exceed 120 *lb.*—1st, J. Stone ; 2nd, W. G. Sale ; 3, G. H. Varty ; 4th, A. Cooper.

Twelve 1-*lb. Sections.*—1st, J. Stone ; 2nd, H. C. Jacques ; 3rd, W. Holdcroft.

Twelve 1-*lb. Jars Extracted Honey.*—1st, J. Stone ; 2nd, J. R. Bridges ; 3rd, J. Pearman ; 4th, W. G. Sale ; v.h.c., F. Walker ; c., H. Joyce.

Observatory Hive with Queen and Bees on One Brood Frame.—1st, A. Cooper ; 2nd, H. C. Jacques ; 3rd, J. Pearman ; h.c., H. Hill ; c., C. Clarke.

Observatory Hive with Queen and Bees on Two or More Brood Frames.—1st, H. Hill ; 2nd, T. Richards ; 3rd, H. Joyce ; h.c., F. Walker.

Twelve 1-*lb. Jars Granulated Honey.*—1st, J. Stone ; 2nd, W. G. Sale ; 3rd, R. Giles.

Three Shallow-frames of Comb Honey.—1st, J. Stone ; 2nd, J. Pearman ; 3rd, G. W. Foster.

Single 1-*lb. Section and* 1-*lb. Jar Extracted Honey.*—1st, J. Stone ; 2nd, F. Walker ; 3rd, G. W. Foster ; 4th, T. W. Jones.

Beeswax.—1st, J. Stone ; 2nd, T. W. Jones ; 3rd, G. W. Foster ; 4th, J. R. Bridges ; h.c., H. Hill.

Six 1-*lb. Sections in Blow's Sections.*—1st, J. Stone.

Six 1-*lb. Jars Extracted Honey in Blow's Jars.*—1st, F. Howard.

OPEN CLASSES.

Twelve 1-*lb. Sections.*—1st, R. Brown, Somersham ; 2nd, T. Simpson, Lichfield ; v.h.c., J. Stone, Cubley ; and W. H. Woods, St. Ives ; h.c., H. Wood, Lichfield ; c., W. Williams, Lichfield.

Twelve 1-*lb. Jars Extracted Honey.*—1st, Miss Smith, Lichfield ; 2nd, W. H. Woods ; 3rd, R. Brown ; 4th, H. Wood ; v.h.c., Miss Chester, Waltham ; h.c., S. Eaton, Audlem ; W. Williams ; and R. Bridges, Chesterfield.

Twelve 1-*lb. Jars Granulated Honey.*—1st, J. Stone ; 2nd, H. Wood ; h.c., W. H. Woods.

Two Combs of Honey in Standard Frames.—1st, J. Stone.

Collection of Appliances.—Equal (dividing 1st and 2nd prizes), G. H. Varty, Burnaston, Derby, and T. Walmsley, junior, Lichfield.—*Communicated.*

HEREFORD B.K.A.

ANNUAL HONEY FAIR.

The weather of the past season has been very much in favour of bee-keepers, and the result of the eleventh annual Honey Fair, held at the Butter-market, Hereford, on Sept. 4, under the auspices of the Herefordshire Bee-keepers' Association, was most encouraging to the promoters. The majority of the exhibits were exceptionally good. Altogether about two tons of honey was staged ; there was a larger quantity than usual in tins, as the sale in bulk increases yearly ; and the quality exceeded that of the previous year. Honey was sold at 9d. per lb. in purchasers' own jars, and about 1s. per lb. in jars and sections. Mr. Alfred Watkins ably discharged the secretarial duties, and the judges were Mr. E. J. Burt and Mr. J. Palmer. The following is the list of awards :—

Exhibit of Honey, not exceeding 200 *lb.*—1st, M. Meadham, Hereford ; 2nd, W. Tompkins, Burghill ; 3rd, J. Wootton, Byford.

Exhibit of Honey, not exceeding 100 *lb. (Novices only).*—1st, W. Williams, Canon Froome ; 2nd, A. Williams, Bodenham.

Twelve 1-*lb. Jars Extracted Honey.*—1st, T. Pritchard, Bucknell ; 2nd, Jos. Thomas, Hereford ; 3rd, Chas. Turner, Byford ; v.h.c., J. Wootton and J. Greenwood ; h.c., W. Tomkins.

Six 1-*lb. Jars Extracted Honey (Novices only).*—1st, J. Smith, Ross ; 2nd, W. Williams ; 3rd, A. Anning, Birch ; v.h.c., E. Pewtress ; h.c., J. Meadham and G. Bedford.

Twelve 1-*lb. Sections.*—1st, W. Tomkins ; 2nd, T. Pritchard ; 3rd, J. Wootton.

Six 1-*lb. Sections (Novices only).*—1st, T. Meadham, Howle Hill ; 2nd, Miss Wootton, Byford ; 3rd, T. Pewtress, Bishopstone.

Best Exhibit of any Shape.—1st, T. Meadham ; 2nd, F. Mailes, Hampton Bishop ; 3rd, T. Pewtress.

Champion Prize.—Exhibit of Honey, not exceeding 12 *lb. (Previous Winners only).*—1st, E. Hill, Withington.—*Communicated.*

WIRRAL AND BIRKENHEAD AGRICULTURAL SOCIETY.

THE HONEY DEPARTMENT.

The show of honey in connection with the above was unfortunately not so extensive as usual, this being probably largely due to the bad season bee-keepers have experienced in this district. A fair show of extracted honey was, however, made, the "district" class being especially well filled, and some very good samples shown. Sections were few in number, and, with one or two exceptions, of only average merit.

The L. and C.B.K.A. had their bee-tent on the ground, in which the Association expert gave lectures and demonstrations on both days to large and apparently very interested audiences. Rain fell at times, but not so heavily as to seriously interfere with the proceedings.

It is to be hoped that Lancashire and Cheshire bee-keepers will support this show more liberally in the future, the prizes are good and the situation of the show central for all.

The committee of the L. and C.B.K.A. held a meeting in the honey tent on the second day of the show.

Mr. W. J. Anstey judged the honey exhibits and made the following awards :—

OPEN CLASSES.

Twelve 1-*lb. Sections.*—1st, J. Stone ; 2nd, Harry Wood ; 3rd, S. Cartwright ; 4th, Thos. Henshaw.

Twelve 1-*lb. Jars Extracted Honey.*—1st, Owen Roberts ; 2nd, H. Wood ; 3rd (equal), Dr. B. E. Jones and Rev. T. J. Evans.

DISTRICT ONLY.

Twelve 1-*lb. Sections.* — 1st, Rev. T. J. Evans ; 2nd, Dr. B. E. Jones ; 3rd, H. M. Bryans.

Twelve 1-*lb. Jars Extracted Honey.*—1st, O. Roberts ; 2nd and 3rd (equal), Rev. T. J. Evans and Dr. B. E. Jones ; 4th, Stephen Eaton.—(*Communicated.*)

NORTH NORFOLK B.K.A.

The annual show was held in the grounds of Brinton Hall on September 5, when an excellent display of honey was staged in a tent lent by the president (Lady Hastings). Messrs. J. H. Pearson and J. J. Rice officiated as judges, and made the following awards :—

MEMBERS ONLY.

Collection of Honey.—1st, H. W. Woolsey, Edgefield ; 2nd, Rev. H. C. Fitch, Beeston Rectory.

Twelve 1-*lb. Sections.*—1st, J. Goldhawke, Reymerston ; 2nd, R. Attoe, Briston ; 3rd, E. Bambridge, Briston.

Twelve 1-*lb. Jars Extracted Honey.*—1st, R. Attoe ; 2nd, J. W. Platten, Briston ; 3rd, H. W. Woolsey ; extra 3rd, E. Bambridge.

OPEN CLASSES.

Twelve 1-*lb. Sections.*—1st, W. H. Woods, Hemingford Grey, St. Ives ; 2nd, J. Goldhawke.

Twelve 1-*lb. Jars Extracted Honey.*—1st, W. H. Woods ; 2nd, J. W. Platten ; 3rd, Rev. H. W. Blunt, Bridgham Rectory.

Single 1-*lb. Section.*—1st, W. H. Woods ; 2nd, Miss F. E. Smith, Lichfield ; 3rd, Rev. R. T. Shea, Little Wakering, Rowney Rectory, Hants.

Single 1-*lb Jar Extracted Honey,* 1-*lb, Bottle.*—1st, Mrs. E. Prideaux, Brune ; 2nd, Miss F. E. Smith ; 3rd, Owen Roberts, Tarporley, Cheshire.—(*Communicated*).

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

BEE-JOTTINGS

FROM HIGHWAYS AND BY-PATHS.

[2184.] *Superficiality.* — The remarks of Messrs. T. Long and B. Short, in recent numbers of the B.J., are most apt, and should be borne in mind by all of us. There is, however, another class of your contributors to whom a few words might also be said ; I refer to those who peruse the text in a superficial way, and in consequence jump to hasty and erroneous conclusions, simply from failing to give due attention and weight to the facts and figures which have appeared in previous numbers. How often, for instance, do we see in "Queries and Replies" the same question and practically the same answer given time after time. In the case of beginners and those not possessing back numbers for reference it is, of course, very different, but when "bee-keepers" keep on repeating questions answered *in extenso* only a few weeks back, one cannot be surprised at some of your more observant readers uttering a mild protest. The complaint however, is a common one, journals connected with Poultry-keeping, Gardening, Cricket or any other pursuit, business, or pastime are sure to possess a certain proportion of sciolistic readers too indolent to trouble about finding out things for themselves, even though entailing no more labour than a reference to back numbers.

The Art of Adulteration.—From two of our leading papers of the 10th and 11th inst. I extract the following paragraphs:—1. "Beeswax is sold (wholesale) in Mincing-lane containing 50 to 60 per cent. of paraffin wax;" and, 2, "Housekeepers (and bee-keepers) will feel gratified in learning that they buy 'Demerara' sugar which is only a cheap beet sugar, skilfully coloured with aniline dyes." I am led to ask, should it not strike all of us, who are sufferers from the above state of affairs, to inquire where is the "Adulteration Act," and those who are empowered to enforce it? When leading "dailies" inform us of dealings in such commodities by the ton by our City merchants, it may well be said, How is such barefaced adulteration to be checked? A few small tradesmen, probably ignorant of the fraud, are occasionally prosecuted, whilst the real offenders seem to be permitted to pursue their nefarious dealings unmolested. Bee-keepers will clearly want a "Trade Protection Society" or something of the kind next.

Time occupied in developing a Drone.—We were recently told in your pages that "all authorities and all text-books agree that a drone takes twenty-four days to develop from the laying of the egg." Now, while this is near enough for practical purposes, permit me to say that if we are to be *quite* correct, then "all authorities and text-books" are wrong, as it really takes twenty-five days under normal conditions to develop a drone, and under abnormal conditions a day to a day and a half longer. I have spent a large portion of this season rearing drones, and have verified the above statement. Thus, an egg laid on the 1st of the month will develop into and come forth a perfect drone on the 25th of that month, and not before. I rather fancy there is, at any rate, one authority whose text-book confirms this.

Drones and Swarming.—Mr. Doolittle, in *Gleanings*, remarking upon the impression that a hive with no drones is no guard against swarming, observes that some colonies in his apiary which were allowed neither drones nor even drone comb had "swarmed as promptly as did those having drones." I have certainly never had a droneless colony swarm, and it has always been my opinion that bees in this condition will not swarm. I should, therefore, ascribe swarming of the colonies Mr. Doolittle mentions as due to some abnormal condition of which he was not cognisant.

Mixed Bees.—From the *Bee-Keepers' Review* (American) I gather that Mr. Gravenhorst has an idea that the mixing of bees from different queens makes them work better, and with this view the eminent German bee-master goes to the trouble of taking frames of brood from different hives to give to other stocks, and in this way mixes the bees when the brood hatches out. Now, when a man of Mr. Gravenhorst's standing in the bee-world does this, it should make one think there is something in it. Personally, however, I cannot but think that great risks are run, especially in districts where disease among bees is prevalent and the difference in the amount of extrawork, done seems hardly commensurate with the trouble involved.—H. W. Brice, *Thornton Heath, Surrey.*

AN ASSOCIATION FOR HERTS.

NEED IT BE RESUSCITATED?

[2185.] After reading the letter signed "A. Prior" (2183, p. 367), one is tempted to wonder, if he considers an association so indispensable, why he does not take steps to form one; but perhaps he may be encouraged into doing so after reading the account of what occurred at Watford on the 4th inst. Probably he is not aware of the existence of an association having its headquarters at Bishops Stortford.

But the question is, Do we need a County Association? For myself I answer most emphatically—No! Certainly not because of the Bath and West of England Show being held at St. Albans next May. In my judgment the organising of honey shows in connection with the large agricultural societies, who visit a county only once in one's lifetime, properly belongs to the British Bee-keepers' Association, and not to the local County Association. Again, there is no longer any need of a County Association for educational purposes. The old order in this, as in many other things, has changed with changing time. County Councils have now taken up this work in common with instruction in many kindred subjects. In some counties where there are Bee-keepers' Associations, County Councils have delegated this branch of their work, and where the associations have done the work satisfactorily it is likely to continue to be left in their hands. But in Herts the Technical Instruction Committee is always ready to receive applications for a course of lectures in bee-keeping, to be given in any village where an audience can be got together, and they are also ready to send a lecturer and the bee-tent to the Cottage Garden Shows.

Moreover, penny weekly prints have increased during the past ten years at a marvellous rate, and all of them which deal in rural pursuits have a bee-column, where information is given about which most of us may rejoice, and the more readily because it was not always thus. What other advantages have a County Association to offer us? I am prepared to be told, the services of an expert once a year, a county annual show, a honey label, and, if affiliated with the B.B.K.A, two medals per annum for competition, and the services of a judge. I will take them *seriatim*, beginning with the last:—(i.) When you get your judge, if some of you petition the Council of the B.B.K.A., pointing out that you have no confidence in the judge they sent you, you will probably have to meet a law-

suit for libel. (ii.) I have no wish to detract from the competitive value of the medals; when honestly won they are trophies of which their owners may well be proud. (iii). A honey label is a thing I have yet to learn the need of. I never knew a person with a good reputation for good honey, put up in good style, who could not sell it at a fair price. When they cannot sell it at a fair price, let them eat it. It is one of the best foods God ever gave to His creature-man. (iv.) The experts visit. Yes, at springtime, at an hour when working people are at their daily toil, and nine chances out of ten but that he calls on an inclement day. My experience is that the people who most want the expert are those who live in villadom and not the bona-fide cottager. The dwellers in villadom are able and ought to pay a fee to the expert, and call him in whenever they wish to have his services.

My interest in bee-keeping has not abated one jot. As the old hands die or drop out, new ones fall into the ranks. I am still, as in the old time, the happy bee-father of a fairly numerous family, and an hour ago was busy helping one of them to take off a super.

Local bee-clubs, meeting periodically, where its members may exchange ideas and mutually help each other, I have strong faith in, but that is altogether a different matter from a county association which I admit did much good in its day, but the need for which no longer exists.—AMATEUR EXPERT, *September* 14.

[We print our correspondent's views, as expressed above, without editorial comment for the present, except to observe that there appears to be some justification for the remarks made by Mr. A. Prior in the communication which follows that gentleman's letter on page 367, and the further one from "Sainfoin" on this page.—EDS.]

AN ASSOCIATION FOR HERTS.

[2186.] If you knew how delighted I was to see the heading on page 367 of last week's JOURNAL, "An Association for Herts. Can it be Established?" you, and even B. Short, would excuse this letter. I have kept bees two years (three seasons), and have taken the JOURNAL ever since I began. After reading of the glorious doing in other places, I have thought to myself what an unfortunate county ours is, especially as Mr. Huckle, above everybody else, lives amongst us. I have often thought of writing to him, but, fearing to get snubbed, have not done so. Now, however, seeing that our neighbours at Watford are waking up, permit me to say that as soon as ever an association is formed I will join it. Why did not our Watford friends, through the JOURNAL, let the bee world know of their show, and I, for one, would have visited it.

One other matter and I am done. Your correspondent, A. Prior (p 367), regrets "that so important a meeting as the Bath and West Shows" should be held at St. Albans. "A. Prior" you surprise me! You ought rather to be glad that it is so, and do all you can to make the show a means of raising bee-keeping in Hertfordshire to the height of prosperity it has attained in other counties. At the end of your letter you say that "one zealous man could do a lot if he stirred at once." To Mr. Prior I say, *Be that man!*—SAINFOIN, *St. Albans, September* 16.

COUNTY LABELS.

SHOULD THEY APPEAR ON EXHIBITS?

[2187.] Referring to 2177, p. 365, September 12, I intentionally put our county label on the Preston exhibit. I knew it might disqualify, but had I lost a prize thereby, "labelling" would have gained. Indeed, it has gained by Mr. Taylor's letter. I have labelled all my exhibits this year, for only thus can we "mark off" wretched substitutes now doing duty for native honey. I hope county labels will be the rule, not the exception, at the coming Dairy Show. Rules which discourage labelling ought to be repealed. I thankfully acknowledge the steward's courtesy at Preston, but it was consideration for the true interests of bee-keeping, not for me individually. This is an important difference. Mr. Taylor quotes Birkenhead and Audlem shows to prove me wrong, but these shows were not in question; they were not advertised in B.B.J., neither did I quote them in my letter. Mr. Taylor's letter implies that Preston show was held by the L. and C.B.K.A. Nothing of the kind. The shows I named were "protectionist," because useless to bee-keepers generally. I heartily thank Mr. Taylor for his letter. It will do good.—E. D. TILL, *Eynsford, Kent, September* 16.

PROTECTIONIST SCHEDULES.

[2188.] I am deeply grieved to see from your footnote to my letter (2177, p. 365) that you have misconstrued the purport of my writing. My sole object was to defend the L. & C. B. K. A. against the charge of issuing schedules which were "strictly protectionist.' Both last year and this I have been astonished at the expeditious despatch and efficient packing of exhibits after shows. With regard to the Preston show not coming under the head of those under the auspices of the L. & C. B. K. A., you are strictly speaking, correct—yet the L. & C. B. K. A. was so much in evidence that the majority of people looked upon it as theirs. Referring to the "county label," you admit that the steward allowed a very liberal reading of the clause that no other mark should appear on the exhibit but the accredited number. As to the "identity" question, I never once intended my letter to be so construed, and your remarks about encouraging the use of labels at shows

would be all very well in their proper place—*i.e.*, the Editor's column—and the practice very laudable if generally carried out without infringing regulations. Deeply regretting you have misread into my letter that which was never meant.—FREDERICK H. TAYLOR, Local Hon. Sec. L. and C.B.K.A., *Fallowfield, Manchester, September* 16.

[We are very pleased to give our correspondent the opportunity of expressing his personal view of the matter dealt with; but, while regretting the pain our footnote has caused him, and the misconstruction of which he complains, we can only say that we did our best to understand his communication, and are content to be judged by what appears on page 365. Referring to what our correspondent terms the "proper place"—or column—for any editorial remarks necessary, he must kindly allow us to be the best judge of that.—EDS.]

CONCISE CONTRIBUTIONS.

[2189.] I notice in to-day's JOURNAL that Mr. B. Short (2182, p. 366) accuses me of robbing the JOURNAL of a column and a half by inconclusive cavil and grandmotherly reference. Well, I *am* astonished! I thought my remarks on paraffin and wax, and the relativity of good old Demerara to cube sugar concise, explicit, and certainly not verbose. If, during the coming winter, I were permitted to ask a few questions on the histology of the germinal layer of the ovary of the queen bee, or the most reliable bacillus stain for foul brood in microscopic work, perhaps I should please Mr. B. Short better, for I might be speaking on a subject he held in awe and esteem and with which he had not enjoyed an interview. But I have been a reader of the B.J. for ten years and prefer to ask workable questions which may help me, when answered, to teach my poorer neighbours and myself how to cut down costs, now that wholesale buyers are offering 5½d. and 6d. per lb. by the cwt. for best English honey, carriage paid. Mr. B. Short appears to be labouring under a temporary spell of jocular aberration when he accuses me of teaching my "good old grandmother" to suck eggs, for I distinctly stated her practice and theory of feeding bees on "Demerara." Lastly, Mr. Short should not speak of "the embryo juices of the egg" when he ostensibly means the egg itself; the embryo juices are too abstruse in their exact composition—being protoplasmic—for him and me to quite grasp. I should like to write an illustrated paper on an "Ideal hive for the heather" if Mr. B. Short could approve of the paper being admitted within the doors of the JOURNAL office and also if he could coax the long-suffering Editors to allow another column or two some quiet week to "WAVERING BACKSLIDER," —*Kirkby Stephen, September* 12.

[So far from deeming it necessary to "coax the long-suffering Editors" in the direction indicated, we have an idea that Mr. Short would welcome the appearance of any useful contribution to our columns as heartily as the Editors themselves. We do, however, venture to ask our correspondent if he does not somewhat discount (by anticipation) the value of the promised article by his unfortunate choice of a *nom de plume?* No one desires to see "backsliding" in bee matters; we want to "get on." May we suggest "Forward" as an improvement?—EDS.]

HEATHER HONEY.

IS THERE SUCH IN THE SOUTH?

[2190.] The following passage occurs in a book on the New Forest by Rose de Crespigny and Horace Hutchinson:—"Almost every forester is a bee-keeper; but in addition to the domesticated bees, wild bees are very numerous. Burley old enclosure is perhaps the spot they favour most. In Elizabeth's reign it was quite a business collecting and selling the honey of the wild bees, and this in the days when the honey buzzard was a common bird.

"The honey the bees collect from the oak bloom is the worst, and of a bad green colour. In later months they have to pick up their nectar here and there in cottage gardens or an occasional field of clover; this produces the ordinary yellow honey.

"Later still the purple heather bloom is everywhere, and from it the bees cull that rich dark honey that is most valued in the market."

In a recent number of the B.J. (2126, p. 296), I asked for information as to the value of heather to South Country bee-keepers. No one appears to have replied on the subject. Mr. Webster perhaps overlooked the request. Have Chobham, Wesley, Weybridge, Woking, and other big commons heather of value, and, if so, what sort of honey results therefrom? Is it the practice to cart bees to the heather in any place south of the Trent?—A. BEILLE.

HONEY FIELDS.

[2191.] In a recent number one of your correspondents raised a doubt as to the value of the stretches of heath lands in the southern counties as honey fields, and expressed a hope that we might hear the opinion of Mr. W. B. Webster on the subject, especially with reference to the heath in the neighbourhood of Bagshot. Failing any word up to the present from the latter gentleman, it may be of interest to record that I have this year established some stocks of bees on the border of Lios Forest in Hampshire, an adjunct to the better-known Woolner Forest, with the result that honey is now being stored from the heather in considerable quantity, and apparently of good quality. In fact, my bees

at Lios have been working better during the last week than any time in the summer. I find the cottagers in that neighbourhood recognise the value of the heather crop; but that it is not usual for them to take up these bees until the last days of the month. One bee-keeper of many years' standing has told me that his skeps will usually double their weight in the month of September.—J. W. JACOMB-HOOD, *Surbiton, September* 12.

DO BEES CARRY EGGS?

[2192.] In reply to the above question, I emphatically answer, Yes, they do. And to prove the matter, place a frame of comb with queen in an observatory hive. In the excitement, caused by the change of hive, the queen will frequently drop eggs anywhere on the comb surface, which eggs the workers will carry off and place in empty cells, if there are any. Again, if a strange queen—on being introduced to a hive—is caged, and the bees take kindly to her, they will give her food through the wire-cloth. This feeding will cause the queen to begin laying eggs in the cage, and the bees will take away these eggs and insert them in empty cells. If they don't take to her there will be no eggs. This is what my experience teaches.—H. SEAMARK, *Willingham, Cambs, September* 11.

USES OF BEESWAX.

[2193.] A postmistress [in Kent, who is a good bee-keeper, gets profitable sale for all her honey in her shop, and uses the beeswax in making very good sealing-wax. The P.O. Department do not find their officers in either string or sealing-wax. In this particular instance the broken seals from the incoming letter bags are preserved daily and remelted into sticks, with the addition of a little pure beeswax.—A KENT BEE-KEEPER, *September* 14.

HONEY PLANTS.

[2194.] Will some of your readers oblige me with a few seeds of "The Chapman Honey Plant"? I can give in exchange some seeds of "Anchusa Italica."—ARTHUR HAILSTONE, *Chateaubriand, Gorey, Jersey, September* 14.

THE HONEY SEASON IN KENT.

A GOOD AVERAGE YIELD.

Our esteemed correspondent, the Rev. Gerard W. Bancks, of Green St. Green, Dartford, Kent, in a note just to hand says:—"I send you the following particulars of my honey takings for this year, that you may make any use of them you like: My twelve best stocks yielded an average of 90 lb. per hive. Giving respectively, 140, 120, 100, 100, 94, 90, 88, 87, 73, 67, 61, and 60 lb. The average yield of my whole apiary, consisting of eighteen stocks, is 75 lb. per hive, or a total weight of 1,350 lb."

The best "use" we can make of the above is—to our mind—allowing the figures to speak for themselves.

B. TAYLOR'S LATEST HIVE.

(*Concluded from page* 369.)

By this system each colony has two hives at swarming time. We also give each colony, run for comb-honey, cases of sections early, for we do not care whether they swarm early or late. They are kept storing surplus without swarming at all, as long as plenty of room will do it! but we use no *force* measures to prevent swarming, for, after the most searching effort in that direction, we are now thoroughly convinced that it cannot be done *profitably*. When the swarm does finally come (if it does) we hive it in a hive contracted to eight frames or less; remove all surplus cases from the old to the new swarm; set it on the old stand, turn the entrance of the parent colony in an opposite direction on the vacant space on the same stand to be re-queened, and the two colonies will be united again after the white honey-flow as before.

In working for extracted honey we simply give each colony all the frames they will fill, and in case they swarm, treat them exactly as for comb-honey. After we have supplied all our colonies, in fall and spring, with all the combs of honey they can use, if any remain we extract them; but every pound of dark honey is used for winter stores and brood-raising, for by this management we secure nearly the entire white-honey crop for surplus.

Now, Mr. Editor, I have written not only about small hives but how to use them. Many bee-keepers try small hives. They use them exactly as they would large ones. They do not find small hives profitable, and argue against them. I have great respect for the Dadants as bee-keepers, and their argument for large hives had almost persuaded me; but now comes Mr. Dadant, in the *American Bee Journal* of May 9, and states that his average yield of extracted honey from colonies in his big hives is only *fifty pounds*, and that his greatest yield was 150 lb. per colony. Friend Dadant, you have, to me at least, given away the whole argument for your large combs and brood-chambers. A small comb, all will agree, can be handled more easily and pleasantly than a large one, and small hives the same. You may say I have more combs to handle in my two sets that I use at times, but I tell you that, with my wired end-frame—with which no followers, wedges, thumbscrews, or other traps are used, but where each comb can be taken from any part of the brood-chamber with the naked fingers, and returned to their exact place without the use of our eyes

at all—the handling of frames becomes a pleasure and pastime. As for crops, we have always worked for comb-honey, and have for twenty years regarded less than 100 lb. per colony, spring count, as partial failure. We have in a good year secured 143 lb. per colony from a whole apiary, and 90 per cent. of it white honey. The seasons of 1893 and 1894 were regarded as bad ones here, and yet we harvested more fine comb-honey each of those seasons than Mr. Dadant says he gets in extracted in average good years. No, friend Dadant, you may go ahead with your big hives. I now *refuse* to be "persuaded."

Now, friend Root, in praising my own special hives I do not mean to condemn other small hives (or large ones either). I have no doubt your eight-frame dovetailed hive can be used in the system I practise, and have explained in this article, to advantage.—B. TAYLOR, *Gleanings*.

Queries and Replies.

[1361.] *Ligurian Bees Dying Off.*—1. Is it correct that Ligurian bees and their crosses are subject to some disease which causes them to die completely off after being to all appearances in good health for three or four years after importation? I have been told that it is so. 2. A statement appeared in *Answers* a few weeks ago to the effect that a bee, with all its hard work and numberless journeys, only collects about a teaspoonful of honey during a whole season. Can this be correct? I can't believe it at all, as, on putting a spoonful of honey within reach of the bees and only allowing one bee at a time to it, it does not require very many loads carried off before it is all gone.—BEE, *I.O.M.*

REPLY.—1. We know of no disease affecting Ligurian bees to which other varieties are not subject; but we have noticed that from some cause or other Italian queens frequently disappear after a season's work. 2. It has been carefully calculated that the honey sac of the hive bee has a capacity for carrying one-third of an ordinary drop. This is about as far as we care to go in calculating how much honey each individual bee stores in a season, bearing in mind the saying, "figures can be made to prove anything."

[1362.] *Do Bees form Antipathies?*—Will you kindly give me through the B.B.J. your opinion under the following circumstances:—I have three stocks of bees, and have hitherto had no trouble in manipulating them; but for the past few weeks, without apparent reason, the bees have shown a decided antipathy to my attentions, and will not allow me to interfere with them at all without stinging me, even after I have put on gloves. Now, as the stings cause my hands to swell, and be very painful for days afterwards, I wish to avoid this trouble. The bees have always been exceedingly quiet, and in order to test them I got a friend of mine who is only a learner to help me, and we worked together; but, although they left my friend alone, they fairly drove me from the hives, and followed me to a distance of twenty or thirty yards, trying to pierce my gloves and veil and altogether stinging me through my gloves in ten places. Is it possible that some physical change has taken place with me, of which, however, I have not the slightest idea, but which is obnoxious to the bees? I am in good health, and do not sweat at all excessively. Can you suggest a remedy to help me? The bees are at present on the heather, and are rolling in honey as fast as possible as the weather has now taken up splendidly.—INQUIRER, *Sheffield, September* 2.

REPLY.—We cannot imagine bees forming such antipathies or sudden dislike to individuals as you suppose, under any circumstances. Cases are, however, known where some persons are apparently always objectionable to them for some reason. It is also a known fact that at times, when the beekeeper is nervous—"unstrung" as it were—he cannot work nearly so well among his bees as when in robust health. If your method of handling the bees is equally good as that of the friend who was unharmed, the difference in result is to us altogether unaccountable.

[1363.] *The Need for a Text-book.*—Refering to reply 1346, page 338, in B.J. for August 22, I beg to state that I have the Guide Book, 11th edition, got from your office two years ago, and also "Modern Bee-keeping," bought three years ago. I have also taken in the B.J. for the past two and a half years, so it was not for the want of books that caused me to ask the three questions already stated. My reasons for asking the questions were:—1. As the hive was very strong in bees, I thought if I divided the frames between No. 1 and No. 2 hives all would go well. 2. In Guide Book, page 92, it goes on to say, "on a fine day," &c., that was my reason for asking the second question; and for No. 3, I beg to thank you for answering this question, for I was not very sure about it. Now, Mr. Editor, you may think me very stupid asking these questions, but I was anxious to hear your opinion on the matter.—R. G., *Renfrew, September* 3.

REPLY.—The several queries put in 1346 (page 338) certainly lead us to suppose that a guide-book was badly needed by our correspondent. With the help afforded by such a book at hand it becomes difficult to understand, because, in the introduction words of the chapter on "Artificial Swarming," page 91, it says, "*As soon* as a stock hive is crowded with bees and contains drones, and honey is being collected abundantly," &c. This could hardly refer to making an artificial

swarm at the end of August. Then our correspondent's quotation from page 92 of "Guide Book" dealt with *making three colonies from two*, and explains a reliable mode of doing it; but in his query No. 2 (page 339) proposes an entirely different plan of procedure, and one which would certainly fail. Referring to his third query, it is, we think, pointed out in most text-books, and repeatedly in our JOURNAL, that young unflown bees—whose work is made up of nursing brood and such home duties—will remain wherever put, but that adult or foraging bees will return to any hive placed on the old stand; and if their queen and a comb of brood be placed thereon will remain there. When, therefore, our correspondent finished up his questions by asking if the young bees "would not go back to the parent hive, deserting the old queen and brood," we may we hope be pardoned for suggesting the need of a text-book.

[1364.] *Wintering Driven Bees, Selecting Queens.*—I drove a skep on September 9, and hived bees on three standard frames of fully drawn out comb and fed them since—this year's queen. 1. Will they be able to pull through the winter with good care? 2. Do you advise buying an Italian queen now at 3s. or waiting till April and paying 7s. 6d? 3. Last September the *tritonias* were not touched by the bees; this year they are feasting on them late and early. Why? 4. Would not sweet, well-saved hay make good winter packing around the inner cases of "Cowan" pattern hives?—INQUIRER, *Newarket-on-Fergus, September* 14.

REPLY.—1. There should be at least five combs for wintering bees on. 2. We should purchase now for preference. 3. The warmth of the present month accounts for the difference. 4. Yes.

[1365.] *Rapid Feeding in August and September.*—I have been feeding up my bees rapidly during the last fortnight, but on examining them yesterday find that they have stored the syrup principally in the middle combs, leaving the outside practically empty; the queen is thereby debarred from laying, and there is very little brood. Very little of the syrup has been sealed over. What ought to be done?—HERBERT E. CATER, *Torquay, September* 10.

REPLY.—During August and early September bees should not be fed rapidly—except in the case of driven stocks with combs to draw out. The food should be given rather slowly till the last week in September, and then completed rapidly. Move the syrup-filled combs to the outside, and endeavour to induce the queen to continue breeding by slow feeding for ten days or so, then resume rapid feeding, and keep the bees confined to the number of combs they can cover thickly.

[1366.] *A Novice's Queries. — Removing Bees, &c.*—1. Having purchased four stocks of bees in frame-hives, would you advise me as to removal of same to my own garden, say if early in morning or late at night? 2. No honey has yet been taken. The hives are not very full of honey. Should I take it before moving or after, or would it be better to leave it where it is? 3. What would be the best thing to do to prevent or cure foul brood, if any? 4. What "Bee books" do you think most suitable for bee-keepers? 5. Please give general information as to keeping bees for, say a few months, as being a novice I require advice.—AMATEUR, *Sheffield, September* 12.

REPLY.—1. Evening is the best time for removal, but if the bees are now located less than one and a half to two miles away from their new stands they must not be moved during "flying weather," or many bees would go back to the old stands and be lost. The only way to overcome this difficulty is to take them to a temporary stand two or more miles away, and keep them there for a few weeks before setting the hives in your own garden. 2. Leave the honey for bee-food. 3. The preventives we recommend are Naphthaline and Naphthol Beta. For information as to curing consult a standard work on bees. 4. We know of no more useful work than Cowan's "Guide Book." 5. The named book will supply this.

[1367.] *A "Muddled-up" Frame Hive.*—A little while ago I bought a hive of bees from a farmer. It is a ten frame-hive, but while removing the supers I saw that there were only seven frames in it, and these occupied the whole space of the ten. Some of the frames are in their right places, but the others are spaced far apart; in the former the bees had filled up the frames properly, but they had built combs across from one frame to another, and thus fastened all together. One comb is stuck to the hive side. On inquiring how this happened, the farmer said he hived them last June on seven frames; a little while after he tried to take out one of the frames which was full of honey, but failed, and got badly stung in the attempt, so they had been left all muddled-up ever since. 1. If you would tell me what had best be done with them I would be much obliged. 2. If I united two skeps of bees and hived them on four frames of sealed honey and the rest foundation at the end of the month, would they winter all right if fed? because I can't get them before.—A YOUNG SUBSCRIBER, *Lustleigh, Devon.*

REPLY. — 1. The help of a bee-keeper sufficiently experienced should, if possible, be enlisted to get through so difficult a job as the one detailed successfully. The properly built-out combs will be the only ones available for wintering the bees on, all others should be cut away and removed. If five straight combs are available, the others may be built out in spring by inserting a full sheet of foundation in centre at intervals of a week. 2. If you

can get as many bees as will crowd the four frames of sealed food and two of foundation, it may be done, but the bees would require constant feeding to induce them to draw out foundation so late in the year.

Bee Shows to Come.

September 28. — Roxburghshire B.K.A. Annual Show in the Corn Exchange, Jedburgh. Numerous prizes. Entries close September 24. Thos. Clark, Secretary. Pleasants, Jedburgh.

October 8, 9, 10, and 11.—Dairy show at the Agricultural Hall, London. Liberal prizes in five classes for honey. Open to all. Entries close September 9. For schedules apply Wm. C. Young, sec. Dairy Farmers' Association, 12, Hanover-square, London.

October 19.—Lanarkshire B.K.A. annual show of honey and bee appliances (appliances open to all), in Public Hall, Larkhall. Also general meeting of members same day at 5 p.m. Entries close October 12. Schedules from John Stevenson, secretary, Merryton Braes, Larkhall, N.B.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

"One Hive."—*Judges' Awards.*—We do not quite understand what is meant by "Observatory Hive Case." But, seeing that the wording of the schedule was somewhat vague, we think our correspondent should appeal to the show committee, who are responsible for it. We are, of course, not in a position to pass any opinion as to a judge's award without hearing both sides. But, apart from this—and with every desire to assist in obtaining justice—it is much better for exhibitors to submit complaints to the proper authorities instead of to outsiders like ourselves.

A. Griffiths (Stourbridge).—*Honey Samples.* One bottle smashed and contents run out when received. The other (probably the "tall one") contains a good honey gathered from mixed sources.

C. C. Yates (Didsbury).—*Suspected Foul Brood.*—Neither of the two pieces of comb received contain anything worse than honey or pollen. In one sample every cell in the comb has been so much "poked into" and the contents mixed up that it is difficult to tell what the mess consists of, excepting to say that it is not, as supposed by our correspondent, "rotten brood." Full instructions for use accompany all packages of Naphthaline and N. Beta sent out from this office.

W. H. M. (Valley of Avalon).—*Value of Honey.*—One bottle (No. 2) reached us broken, and contents run out. Enough remained for us to say the honey is fairly good, similar to some we saw sold at 7d. per lb. in bulk. No. 1 is very good in colour and consistency. The flavour is rich, but a little peculiar. We think it has been got from plum-bloom as well as the apple-trees referred to. Market values vary so much in different localities that we cannot do more than say No. 1 should sell at full value for good honey in the neighbourhood.

Subscriber (Martock, Somerset).—*Amount of Food for Winter.*—1. Driven bees hived on full sheets of foundation so late as September 14 should be fed till combs are drawn out, and have *at least* 15 lb. of stores sealed over—after comb-building is completed—when packed down for winter. 2. Autumn is the best time for establishing stocks of driven bees, but they should, if possible, have built-out combs given them. 3. If the bees will "draw out" six combs they will winter well on that number, but we fear that fewer will have to suffice, unless the bees are very numerous and weather keeps warm.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c. — Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

HEALTHY DRIVEN BEES, with Queens, 1s. per lb. in 5 lb. lots. Boxes to be returned, or will be charged for. Ed. Long, Cottenham. J 45

FOR SALE, one pound SECTIONS, well filled with white clover and heather honey, 8s. per dozen. Ed. Long, Cottenham, Cambs. J 46

FOUR dozen well-filled sections of COMB HONEY, 7s. dozen. Petty, Broughton, Stockbridge, Hants. J 43

ENGLISH HONEY FOR SALE, good quality, 6½d. per lb. Tins and crates free.—H. May, Kingston, Tetsworth, Oxon. J 37

SIX STRONG HEALTHY STOCKS. Good stores. Bar frame hives 15s. 1895 queens 3s. 6d.—Laurence Taylor, Hathersage, Derbyshire. J 40

FOURTEEN DOZEN SECTIONS at 7s. 6d. doz. Also 14 doz. at 6s. 6d.—F. Cousins, Misterton, Gainsborough. J 39

HONEY.—One cwt. of 1-lb. CLOVER SECTIONS; one cwt. Extracted for SALE. What offers? G. Gray, Market-place, Burgh, Lincs.

TWO STOCKS of BEES for SALE, 1 Frame Hive, 1 Skep. Price, 30s. Hancock, Earl Grey, Wotton-under-Edge. J 36.

HONEY.—FOR SALE, 2 cwt. of pure extracted HONEY, at 7d. per lb. Wm. Bettles, Bozeat, Northamptonshire. J 47

HONEY EXTRACTOR FOR SALE. "Cowans." What offer in cash or Honey? Kitchener, Hallbankgate, Carlisle. J 42

FINE NET BEE VEILS, better than wire, 9d. post free. Abbott Brothers, Merchants Quay, Dublin. J 38

Editorial, Notices, &c.

THE DAIRY SHOW.

THE PROPOSED SUPPLEMENTAL CLASSES.

A member of the B.B.K.A. Council has interviewed the secretary of the British Dairy Farmers' Association on the subject of a supplemental class for honey products at the Dairy Show, such as honey vinegars and mead, and though Mr. Young is strongly in favour of the exhibition of honey products, he sees an objection to a competition this year in anything which has not been already included in the printed schedule of the Dairy Show. It will be necessary, therefore, to postpone the arrangements for a competitive class in honey products until next season. It is hoped that those bee-keepers who have so willingly prepared honey vinegars and mead for the occasion will not feel keen disappointment, and that they will send up a sample of each product (in clear glass bottle) for staging among the non-competitive objects. Such samples will be of special interest to bee-keepers, and of interest generally to all who visit the honey department. Some have already promised to do this.

The entries this year number 121 (as compared with 84 in 1894). This is most satisfactory, especially when we consider that there are only five classes. It shows what dimensions the Dairy Honey Fair will assume in the near future when the contemplated extension of classes and prize-money will afford our bee-keepers double or treble the present inducement to compete.

LEICESTERSHIRE B.K.A.

This association held its first show in connection with the Loughboro' Agricultural Association, on the grounds of W. B. Paget, Esq., Southfield, Loughboro', on Wednesday, September 18. This innovation was much appreciated by visitors, and proved most successful. It should be the institution of a good annual honey show for this district. The honey staged was of good quality, and the "display" class very effective. Two good collections of appliances were shown by Messrs. W. P. Meadows of Syston, and C. Redshaw of South Wigston. The manipulating tent was in charge of Mr. A. G. Pugh of Nottingham, who gave practical demonstrations and lectures on bee-keeping to very attentive audiences. Mr. Pugh officiated as judge, and made the following awards:—

Twelve 1-lb. Jars Extracted Honey.—1st, J. Waterfield, Kibworth; 2nd, H. Dilworth, Shangton; 3rd, W. P. Meadows, Syston; h.c., W. Falkner, Market Harboro'.

Twelve 1-lb. Sections.—1st, J. Waterfield.

Display of Honey, any Form.—1st, J. Waterfield, 2nd, W. P. Meadows; 3rd, Miss A. Throsby, Leicester.

Twelve 1-lb. Jars Granulated Honey.—1st W. Parkinson, Groby; 2nd, W. P. Meadows; h.c., J. Waterfield.

Six 1-lb. Sections, or Two Shallow-Frames of Comb Honey in Meadow's Cases.—1st, J. Waterfield; 2nd, J. Fewkes, Glenn Magna.

Single 1-lb. Section.—1st, J. Waterfield, Kibworth.

Six 1-lb. Sections in Redshaw's Glass Sections.—1st, J. Waterfield.—(*Communicated.*)

BIGGAR BEE-KEEPERS' ASSOCIATION.

The annual exhibition of the above was held in the Corn Exchange in connection with the Flower Show, and notwithstanding the recent unfavourable weather in Scotland, some splendid specimens of the bee-man's craft were staged, notable being Mr. Walter Rae's honey-comb design of a crown, which was much admired, and, though not entered for competition, received a v.h.c. The sections were exceptionally good, but the supers were not first-rate. The judge, Mr. Robert Colthart, Abington, made the following awards:—

Super of Flower Honey.—1st, Wm. Ormiston; 2nd, M. Rae; 3rd, David Paterson.

Six 1-lb. Sections.—1st, Andrew Boa; 2nd Wm. Ormiston.

Six 1-lb. Sections Heather Honey.—1st, R. W. Clarkson; 2nd, Jas. Lawson. Mr. Andrew Boa was also awarded a Commend for his collection of bee appliances.—(*Communicated.*)

IS BEESWAX A DRUG?

A grocer has been charged before the Bearsted Bench, under the Food and Drugs Act, for selling bees-wax of which *seventy* parts were paraffin! The question whether bees-wax was a food or a drug, or if it were either, might give the wisest some pause, but the Bench cleared the fence at a bound, and convicted the grocer. In another case the Cranbrook Bench refused to convict, holding that bees-wax was not a drug within the meaning of the Act. In its plain sense there is no doubt bees-wax is neither a food nor a drug. Who ever heard of bees-wax being included in any dietary; and who shall call it a drug? Webster gives the primary meaning of drug:—"The general names of substances used in medicine." (Bees-wax is largely used for plasters). Bailey's definition of a drug is:—"All kinds of simples, for the most part dry, for the use of physic, painting, &c.; also sorry commodities which stick on hand." Surely "bees-wax" of which 70 per cent. is paraffin is a very "sorry commodity" which ought to stick well "on hand."

But the Bench convicted. Why? Because defendant was guilty of "a technical offence." The defendant had either traversed the Act or he had not. The Bench, perhaps courageously, decided that he had. If so, the offence was not in the least "technical." It was an offence which the Act was specially framed to punish, and a most atrocious piece of adulteration. It is no answer for the vendor to say that he bought it "from a tradesman of good repute." No doubt he did, and his redress lies against that most "reputable" wax merchant.—*S.E. Gazette, Sept.* 10, 1895.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

*** *In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

"NOTES BY THE WAY."

[2195.] Here we are in the last week of September enjoying lovely summer weather, the thermometer to-day registering 70 degs. on a N.W. wall. The month has been a grand one to the farmer for the ingathering of the late harvest, and also for making fine crops of aftermath into useful provender for winter food for his cattle, or replenishing the too often slender purse of the agriculturist. "And what of the bees," do I hear someone say? Well, the weather has been most suitable for everything connected with bee-work, be it in the apiary or in the store-room. The bees are foraging daily. Ivy is blooming earlier than usual, and the late flowers, so profuse this year, are yielding pollen and a little honey. I am informed that driven bees hived on full sheets of foundation a fortnight back have nearly built out combs, and filled them with honey and patches of brood in the centre frames from the wild mustard (Charlock) now blooming profusely. The owner had not troubled to feed, but would do so if the weather changed. The suitable weather has also favoured the sowing of trifolium seed (crimson clover they term it in America). Near my out-apiary I noticed a field of several acres just coming up, and more of it is "coming on" for spring bloom. It is usually sown for early cutting as "green meat" for horses. It makes good hay, but grows no second crop, as do other clovers. These fields of trifolium close to my apiaries will influence my management another spring, as the plant blooms a fortnight earlier than sainfoin and white clover. Spring-sown grasses are nearly a failure in this district, owing to the long drought, and farmers are thinking of leaving the old "laying" to stand over another year; this will insure a certain breadth of white clover.

Marketing the honey crop will be the work of the coming month, and I would urge producers to send their sections into market clean and bright, so that British honey may not only hold its own, but grow in favour. Progress has been made during late years, but let us still advance. To learn how packages of edibles are now put up to tempt purchasers, go into an Italian warehouseman's shop and observe the multitudinous assortment of commercial packages containing beautifully put-up eatables, of which our fathers never dreamt. Therefore, I say to bee-keepers, let your sections of honey, when on the grocer's or dairyman's counter, show no soiling by thumb-marks, lumps of propolis and bits of dirty wax, such as I saw recently in a shop in a fashionable seaside town, and was told could be bought at 7s. per dozen. Why, it was worth another 6d. a dozen to get them clean enough to be put in the hands of customers, without the 2d. tin case, in which they were sold, to say nothing of the preference for what is clean and wholesome-looking. For extracted honey I certainly think *the honey-bottle* is still wanting. Screw-capped bottles look well, but are dear and leaky, and will soon pass out of use when *the* bottle is introduced. Next to the "screw-cap" for appearance is, to my thinking, the tall tie-over jar, but this may be vastly improved by a smaller mouth and using a cork covered with parchment, on which could be printed the name of the honey producer. By buying in the best market, cost of bottles and corks need not exceed 1d. each, whereas the "screw-cap" jar costs fully 2d. Self-opening tins, holding from 2 oz. to 36 lb. are good packages if covered with a neat label. They are durable, cleanly, cheap, and honey in them travels per rail at a much lower rate than in glass or comb.

I am only voicing the wish of many if I say how thankful we shall be if our large bee-keepers will give us their methods of putting up their honey and the styles of commercial packages. What we want is cheapness and utility. I have been inquired of as to the size of the wide frames mentioned in my last "Notes," and therefore give dimensions as follows:—Width of top bar, $1\frac{1}{16}$ in.; width of shoulders, $1\frac{7}{16}$ in.; sides and bottom bar same width as top bar, but bottom bar barely $\frac{1}{4}$ in. thick. Since writing a fortnight ago I have removed the last supers from my out-apiary, and in one hive the frames were part wide and part narrow. The portion of super

over wide frames was clear of brace-combs, but over the ordinary ones there were more brace-combs than I like. The super-crate is therefore marked for alteration—*i.e*, I shall reduce the thickness of slats on which the sections rest; but practical tests can conclusively prove the matter.—W. WOODLEY, *Bredon, Newbury.*

AMONG THE BEES.

RAPID FEEDING.

[2196.] My article appearing in the September number of the *Record re* rapid feeding and feeders has called forth a query from a gentleman who, as he requests me to answer it in the B.B.J., very evidently and wisely reads both journals. He asks:—"Do you not think that a feeding stage, made to accommodate six one pound bottles, would be feeding sufficiently rapid without causing the excitement always present when using a rapid-feeder?" Not having previously tried such an experiment, I could not answer it off-hand. I first supposed that six ordinary feeding-bottles were meant, but upon re-reading the query, I noticed it read:—"Six one pound bottles," Rightly or wrongly I jumped to the conclusion that he meant ordinary one pound honey-bottles. I therefore made a stage with six holes in it, covered the holes with ordinary perforated zinc, and inverted thereon six ordinary one pound honey bottles filled with syrup, and having pieces of muslin tied over the mouths of same, these I placed upon a half-fed stock of driven bees. The result was certainly a deal less excitement than with the ordinary rapid-feeder which had been removed to accommodate this, shall I coin a word? "poly phagon"—that's a good (?) word for a bee-appliance — The work of untying and tying the bits of muslin when it was necessary to replenish the "poly phagon" was a job I should certainly never "hanker after," for I reckon it would take me about two days to provide one day's feed to the bees. This need hardly be considered much of a drawback, as something could be easily invented to do away entirely with the muslin business. Now, according to my idea, there is something in this query which offers a chance for some ingenious mind to construct a rapid-feeder different to the one now in use, which will obviate the annoying excitement always present when using same. I have, it is true, tried many plans to quell this excitement, but have as yet met with little or no success. The necessity for rapid feeding at certain times no practical bee-keeper can gainsay; it is an absolute necessity. One cannot feed up a lot of condemned bees, say, during September, with an ordinary regulating bottle-feeder. The advice I gave in the September *Record* to use a rapid-feeder for about two days, during which time a strong lot can easily store 10 lb. of food, and then substitute a bottle-feeder, has met, in my case, with the greatest success. I may not be right, but I have an idea that the distance bees have to traverse, when using the present rapid-feeder, to and from the combs is a main cause of the trouble; therefore if we can construct one for use *within* the hive—a bottle-feeder is the nearest approach to this, standing, as it does, almost on the combs—we shall in a great measure lessen the excitement and consequent injury to the stock, both from fighting and "balling" of the mother-bee. B.J. readers, who have read my article in September *Record*, will note that I object to the present rapid-feeder, not only on account of its excitement-producing qualities, but also from the fact that the combs get filled, or partially so, with syrup (by "partially" filled I mean a little in each cell) to such an extent that the mother-bee is almost entirely prevented from breeding during the time of feeding. Thus the colony goes into winter quarters with members who have spent the best part of their energies in storing the food; in fact, it consists largely of a worn-out lot of bees which have had no opportunity of adding to their numbers young bees possessing the necessary store of latent energy for successful spring work. Of late years it has seemed to be the rule to cram a great quantity of food into the hive within a given (very short) period, and to take no note of the condition of the bees which have to survive the rigours of winter, and—here's where the "rub" comes in—build up the colony in the ensuing spring. A stock of bees which fed up during autumn in four or five days will very comfortably live until February or beginning of March; but what about the following April and May? Why, it is often worse off than it was in January: This, I maintain, is entirely owing to rapid feeding—too rapid, I mean.

How to obviate this condition of things is rather a poser, otherwise than by using the rapid-feeder as recommended by me in the *Record*, and the bottle for the remainder of their stores, and never to feed rapidly (except in the case of near starvation) a colony partially stored with natural food. In the latter case begin with the bottle-feeder at the commencement of August, and continue until they are well provided. Never mind the extra labour, it will amply repay in the end. You will find fewer motherless stocks in spring, and a much larger percentage of strong, healthy colonies when May comes round again.—W. B. WEBSTER, *Binfield, Berks.*

COUNTY B.K. ASSOCIATIONS.

NEED THEY BE RESUSCITATED?

[2197.] I notice with extreme surprise that your last issue contains a letter (signed "Amateur Expert") (2185, p. 374) which cynically condemns County Bee-keeping Associations, and particularly the county honey label. Now the label "has a future," and is undoubtedly the only means we have for

properly distinguishing our genuine native product from the inferior stuff palmed off as pure British honey. Happily, such as "Amateur Expert" are in a very small minority, but it is surprising how a small number of dissatisfied spirits, by their persistent pessimistic outcry, make people believe that they correctly represent true opinion. Comparatively few take the trouble to search out matters; they swallow what is put before them without questioning its truth.

In the *Times* of Friday last there is the following valuable opinion expressed in a letter contributed by Mr. R. Henry Rew:—"The capture by the foreigner of our butter markets is often cited as a proof of the superior enterprise of French or Danish farmers. I venture to think that it proves only the *superior organisation* of their trade. . . . . The secret lies in one word—"Organisation;" but the organisation has been commercial, not agricultural. The moral for us of this conclusion is evident. The recent successful effort of the British Bee-Keepers' Association in the direction of wholesome measures for preventing the spread of foul brood seems to me to prove the benefit of organisation. Without organisation the movement would have been impossible. This is but one proof of its advantage. I could give others, but surely no open-minded bee-keeper wants convincing that "Amateur Expert" is wrong, and his letter mischievous.—E. D. Till, *Eynsford, Kent.*

SURREY BEE-KEEPERS' ASSOCIATION.

[2198.] May I ask you to publish the enclosed circular which has reached me from the Surrey County Council, and which will explain how matters are progressing with regard to the above?

I have to thank those who have already sent in their addresses, and request any of your readers who are desirous of taking part in the conference to communicate with Mr. Macan. I believe it will probably be held at Guildford on the third Saturday in October, and hope Surrey bee-keepers will come to the front and show the County Council that they appreciate their efforts on behalf of the bee-industry.—A. D. Woodley, *Reading, September* 20.

Surrey County Council.

Technical Education Committee.

Bee-keeping in Surrey.

Dear Sir,—The success which has attended the tours of the Berks bee-van in this county during the last two years, and the requests which have been made to this committee for further instruction, have encouraged them to engage Mr. Jesse Garratt, the well-known expert, to give practical instruction during the coming spring and summer in several parts of the county. It is also proposed to hold a conference of bee-keepers at Guildford early in October, with a view to—1, Reorganising the Surrey Association and placing it upon a satisfactory basis as regards funds, &c.; 2, organising systematic instruction and promoting examinations in bee-keeping; 3, taking steps to influence Parliament to give power to the County Council to make regulations to check the ravages of "foul brood" in the county. — Yours faithfully, H. Macan, Organising Secretary, *County Hall, Kingston-upon-Thames, September* 10.

DO BEES FORM ANTIPATHIES?

[2199.] I was much interested in query 1362, p. 378, in this week's Journal, as my experiences have been very similar. In the spring I could look through a whole hive without the bees flying about or showing any disposition to sting; but now I have great difficulty in examining even a single frame; indeed, I found it quite impossible to do so in one case. I am a beginner, and should be glad to know how a practical man would proceed under the circumstances. Of course I could wear gloves and otherwise protect myself, but bee-keeping under such conditions becomes at once a nuisance. — Excelsion, *Herts, September* 21.

[It would be far easier for "a practical man" to demonstrate on the spot his method of overcoming the trouble referred to, than to detail his probable procedure on paper from a distance. The particular district of Herts from whence our correspondent writes is, we know, well supplied with experienced bee-keepers, from whom some help could be obtained probably for the asking. Why not try this?—Eds.]

LONDON BEE-KEEPING.

[2200.] After eleven years of bee-keeping within $3\frac{1}{2}$ miles of Oxford-street, I am reluctantly compelled to give up my bees, and I enclose a statement showing the honey obtained from my "Cockney bees" which may be of interest.

Excepting during the first few years I have always used impervious quilts, even with nuclei, and have never lost any bees in the winter other than one nucleus in which the queen got pinched. But I always pack the floor board so that the bees do not get chilled at the bottom of the hive, and they can clean out the dead bees themselves without the assistance of a bent wire. The bees are descended from a Carniolan queen (crossed black) which I introduced a good many years ago, with a view to improving their flying powers, but for several years past I have avoided swarming by giving plenty of room, &c. The honey has been mostly lime mixed with clover. At the Colonial Exhibition at South Kensington it obtained a medal, and

some sent to the Chicago Exhibition was "highly commended." Only once has any honey dew been stored in the supers.

Though no longer a practical bee keeper I shall still hope to take an interest in bees and bee-keepers.—F. F. L., *Brondesbury*.

The statement of my honey produce is as follows :—

		lb.
1885.	One hive	100
	(Also from nucleus built up with eggs and brood from this hive, 27 lb.)	
1886.	Two hives	98
1887.	,, (no rain)	88
1888.	,, ...	46
1889.	,, ...	75
1890.	,, ...	93
1891.	,, ...	200
	(Also from nucleus, 2 lb.)	
1892.	Two hives...	142
1893.	,, ...	22
	(Both hives had foul brood)	
1894.	Two hives...	44
	(Still weak after foul brood)	
1895.	Two hives	83
	Total from hives	941

Annual average for eleven years, 45 lb. per hive; ditto (omitting '93 and '94), 51 lb. per hive.

Total honey from two hives in eleven years (including two nuclei as shown), 970 lb.

F. F. L.

GLASS COVERS FOR FRAMES.

[2201.] In the B.B.J. for August 22 (2153, p. 335) I see that "A Countryman" asks whether I keep on, during the winter, the sheets of glass usually laid over the tops of the frames in my hives, and whether moisture would not then condense on the under surface of the glass, to the injury of the bees.

Well, I know that theoretically this ought to be the result. All I can say is, that practically I have not found it so. During the exceptionally severe winter of 1894-5 I had glass covers to six hives, of course thickly packed above with layers of carpeting, felt, and old drugget, completely filling up the vacant spaces under the roofs. The hives had all a lift of standard or shallow frames over the usual standard body-box, as I wanted to try Mr. Simmins' non-swarming plan. All came triumphantly through the ordeal except one weak lot, which, with my present experience, I might perhaps have saved. I had neither mildew beneath the glass nor among the wrappings; although the previous winter I had great trouble with mildew amongst wraps placed over the ordinary quilting. In the spring I had not a trace of dysentery.

As I have this summer taken about 250 lb. of sections and comb honey off three of these same hives, I don't think there can be much doubt as to the healthiness and vitality of their occupants. With the other two hives I experimented for new breed and increase, but they were quite as healthy and responsive in their way.

Perhaps there is sufficient ventilation through the porous corks with which I close the 1½ or 2 inch circular feed-holes which I cause to be cut in the glass sheets. At any rate, I can but state facts as I have found them. I ought, however, to mention one great drawback. It is the provoking way in which the bees fasten down the glass-sheets with propolis and brace-combs. This makes their removal a troublesome and tedious business. But I do not know that the inconvenience is greater than that experienced from the same causes with quilts, and, at any rate, you can see what the bees are doing underneath, and checkmate them if needful. Next year I hope, by a more liberal use of vaseline, to get rid of much of this annoyance; and I now use much thicker glass than at first, to avoid breakages. I would add that, along with others, and I must give up Mr. Simmins" plan of empty lower chambers, for ten-frame hives. When such hives are roaring and overflowing with bees, it is quite out of the question to be continually lifting them off, storied up, as mine were, with four and five lifts each, to take away built-out combs and replace them with starters below. And if this is not done, the lower receptacles become simply a vast breeding ground for drones; and the trapping of these is not pleasant. Moreover, the continual interference ruins the temper of the bees, and soon makes them become a perfect nuisance.

In apology for my silence, allow me to say that I have been abroad for a holiday, and have only just seen the last six weeks' issues of the B.B.J., or I would have replied to "A Countryman's" inquiry long before this. I shall be glad to give him any further information in my power, as to my mind the comfort and advantage of the glass covers are immense, and I am much interested in knowing how they may answer when tried by others.—W. R. N. *Sussex, September* 11.

AN ASSOCIATION FOR HERTS.

[2202.] Referring to 2185, p. 374, "Amateur Expert" asks why I do not myself start a B.K.A. for Herts. My answer to him and to "Sainfoin" is that I am fully occupied in serving the B.K.A. of my own county. "Charity begins at home," but does not end there, hence my anxiety for Herts. I have tried to stir up solicitude, but I appear to have aroused opposition. Nevertheless, "Sainfoin's" letter is encouraging. "Amateur Expert" may "emphatically" deny the need of Association. I as emphatically affirm the contrary. Where was Herts when the B.B.K.A. went to the Board of Agriculture? What did Herts contribute in the way of information, statistics, or support? Nothing. At least, I do not remember anything in the B.B.K.A. reports in your journal from Bishops

Stortford. Will the secretary of that Association kindly favour us, through the B.B.J., with some account of its work and membership? But it is worse than useless arguing with one who makes light of prizes, judges, honey labels, experts' visits, and associated effort generally though pretending affection for "bee clubs." How many of these has "Amateur Expert" started and kept going?

It strikes me we may say of him—

"O name him not,
For he will never follow
What other men begin."

Were "Sainfoin" to enlist *him* in the projected movement, it would only be to court failure at the very outset. "Amateur Expert's" attitude has its counterpart in that of a bee-keeper I know in another county, who also studiously holds aloof from associated effort. He, too, favours "bee clubs," and, like "Amateur Expert," necessarily blocks the way. I wonder whether there is any county axe to grind. Self-interest always warps a man's judgment, and so I say mistrust opinions where self-interest is concerned.—A. PRIOR.

[2203.] May I, in reply to "Sainfoin's" letter, page 375, and to that of A. Prior, page 367, request those two gentlemen to consent to form a provisional committee with myself and any other bee-keeper in Hertfordshire, who may be inclined to commence the formation of an association for the county? what we now want is action, and I feel sure that when once the work is begun, others will come forward and join, giving their united help to push the society among the younger bee-men and women in their several districts. But before an association can be said to exist many details have to be considered, and these can only be carried through by a few individuals co-operating together and bent on making it a success. Hertfordshire bee-keepers can, I am sure, safely leave any comment on "Amateur Expert's" negative letter on page 374 in your hands; but, Mr. Editor, there does exist a great need for an authority in this county such as an association alone can give, and through which advice, teaching, and other matters connected with the industry may be disseminated.—J. H. NEW, *Essex-road, Watford, September* 23.

BEES IN IRELAND.

A LATE SWARM.

[2204.] On September 9 I found a swarm of bees in my garden; if they have come from my own hives (nineteen), it is the first I have had this year. After hiving them I examined my stocks, and found all boiling over with bees. I removed all supers early in August. Brood-chambers are well filled, and bees are still gathering from wild flowers of different kinds growing in the neighbourhood. The yield was fairly good. I would be glad to know if any swarms have come out so late in the season. I am a reader of the BEE JOURNAL for the last three years, and have not seen any similar report. I have the rapid feeder on, and bees are drawing out combs and taking down syrup very well.—MATTHEW CAFFREY, *Drogheda, Sept.* 16.

[The swarm must certainly be regarded as an abnormal one, from the altogether unnatural date on which it issued. We judge it is a vagrant swarm from some cottager's apiary.—EDS.]

HOW TO HANG FOUNDATION IN FRAMES.

[2205.] Whilst spending my holiday at Exeter I went to a local flower show. A hive, consisting of body-box and crate of sections, was shown fitted with brood and super foundation. On examining the frames I found the foundation was hung with the cells the wrong way, whilst in the case of the sections it was suspended in all sorts of ways. Ascertaining the exhibitor's address, I called, and found he had no idea that it mattered which way foundation was hung. As you know, brood foundation is bought in sheets of the requisite size for standard frames, so that if inserted entire it can only be put in the frames the right way. It was therefore evident this foundation was bought wrongly impressed. This was the case. Obtaining the name of the local dealer, I called upon him, and found all his stock was like what I had seen. I pointed out to him the error, but he would not admit his foundation to be wrong. The dealer assured me he sold tons of foundation of a similar character; that he used the same sort himself; and that it made not the slightest difference whichever way foundation was embossed, or whether it was embossed at all.

What do you think of such facts? Do you wonder I found several in the district who had been disappointed with bar-frames, and who complained bees would not take to them or to supers? How do you reconcile the dealer's assertion with published facts, and what do you think of the manufacturer (whoever he may be) who supplies "tons of foundation" wrongly stamped?

I think there is much need for the County Council to spread light on bee-keeping and management in the district.

I should like to say that there must be some in Exeter who know what is right, for I saw in the shop of the Cathedral Dairy the finest glass super of standard frames it has been my privilege to see.—(Rev.) FRED. W. DUNSTER, *Soham, Cambs.*

[This matter was fully discussed in our issue of June 14 last year, p. 231.—EDS.]

ON "INVITATIONS"

IN GENERAL, AND TO SCOTCHMEN IN PARTICULAR.

[2206.] Mr. J. Stevenson, Secretary of the Lanarkshire B.K.A., sends me schedule of the show to be held at Larkhall, October 19. This schedule would please your correspondent who protested against protectionist shows. His protest recalls to mind the fable of the Stork and the Fox. Reynard invited the stork to a dainty feast, but served it up in a *shallow* dish! The stork with his long bill of course fared very badly, but with true etiquette invited his host to a return banquet. This he served in a deep bottle with a long *narrow* neck! Your column of "Shows to Come" will probably contain fewer "shallow dishes" next season. The Larkhall schedule is largely "free trade." The secretary must be enterprising to send invitations unsolicited so far south. The "Trophy" class is the most suitable for south-country bee-keepers, but it is scarcely satisfactory to class heather honey in the same category with southern. Schedules need to be framed expressly when north and south compete. How pleasant it would be to see a few of our Scotch bee-keeping friends at the Dairy Show and the Conversazione of the British B.K.A. on October 10. Cannot you persuade some to take a flight south that week? There ought to be special classes at the Dairy Show for Scotch bee-keepers, but when the B.B.K.A. have carried through their F.B. measure they will have leisure to look to this. Northern associations would then have reciprocal classes for us southern bee-keepers. A representative of Scotch associations on the Council of the B.B.K.A. would pave the way to much more intercourse between north and south, and it would help to remove a deal that remains of the great wall of Sever—us?—A MEMBER OF THE K.B.K.A.

P.S.—The wall of Severus, I believe, runs from the Tyne to the Solway, not from the Tweed; but I fancy Northumbrians are as Scotchmen so far as bee-keeping is concerned.

AMONG THE BEES.

HEATHER HONEY.

[2207.] Glancing down the "Contents" of this week's B.J. I caught sight of the following query—"Heather Honey: Is there any such in the South?" Well, I thought, here's a matter that I can give a very reliable opinion about. What was my surprise upon reading the contributions to find that this same query had been pointedly directed to me in a previous number of the JOURNAL by Mr. Jacomb-Hood, who, by-the-bye, I had the pleasure of meeting some months ago "Among the Bees"—yes, in my own apiary. I must really apologise for carelessness in overlooking the query; some, perhaps, will think that I didn't care, or wouldn't take the trouble to answer it. The fact is, however, just the reverse. I feel rather disappointed if two days pass over without my receiving some sort of query, which—negligent friends kindly read this—in about eight times out of ten arrives by post without the necessary "d" to pay the postage of the answer. Too bad, isn't it?

Now to return to the query, "Heather Honey: Is there any such in the South?" Yes, most emphatically yes; plenty—such as it is. But there's about as much difference in the heather honey gathered around Ascot, Bagshot, Finchampstead, Camberley, Chobham, &c., and that gathered in districts above 53 deg. of latitude as there is between honey dew and the finest sample of A1 grade of fine clover honey. Often thin, washy and smoky. Never (no, never!), with the bright amber colour of the moors or the specific gravity of the same districts. Not seldom quite unpalatable, and sadly deficient in aroma. To sum it up—It's no good! I have walked across the moors in Scotland and north England on a warm day in August, and upon returning have found my boots sticky with the nectar kicked from the flowers. I have also strolled across the moors (?) about here, or rather four miles from here, but never with the same result. Take a section of heather honey from the south; why the honey will fairly run out when you cut the comb. But handle a fine comb of genuine northern heather honey in the same way—you can pick the hexagonal pellets of honey up like jelly, and the aroma will fill the room. Quite a number of bee-keepers here in the south have never tasted genuine northern heather honey. Some think our southern trash is nice. Well, my advice to them is to get some of the genuine sort, and try the difference. I could do with a fine-grade section on my table now; unfortunately, it is not there. It's quite three years since I had one.

Out in the south-west of England there are quite extensive stretches of heather land. I have never tasted or seen any of the heather honey from these parts; if it equals the northern heather we should have heard about it long ago. No doubt your readers are aware of the fact that the produce from a given district is always looked upon by the inhabitants of that particular district as superior to any other. This idea seems to form a part of the erroneous impressions of the *genus homo*, no matter where we travel. Take the case of a farmer's wife or dairymaid. Their particular make of butter is far superior to any other, and we at once forfeit the esteem for ever of any of these ladies (men are as bad) if fault is found with the results of their labours in this direction. Just so I think that most bee-keepers in their particular districts vaunt their produce, forgetting that, although comparisons may be odious, it is absolutely essential that a comparison be made before a right conclusion can be arrived at. I have made these comparisons in quite a number of cases, and

say that the heather honey of the south, although obtainable in large quantities, is a very bad substitute for the genuine moorland honey of the north.

I have moved my bees year after year to the heather in this district, but never in a single case have I obtained any of the right sort of heather honey, although the hills were as purple as those in Scotland.

Apropos of this subject, a very large landowner in the south near here imported several batches of grouse on several occasions and turned them down on the moors (we don't call them "moors" here), with the result that they never increased, and finally died out. Why is it? The flower looks the same. Must it not be the soil? I don't know. I do know that the description of soil makes a wonderful difference in the colour of honey. I can never get very pale-coloured honey in my home apiary, it is always of a rich dark amber. I am on the clay.—W. B. WEBSTER, *Binfield, Berks.*

Echoes from the Hives.

Southfleet, near Gravesend, September 16.—This is a record year for honey with me. Even now the bees are storing, instead of licking frames out. I have taken 150 lb. of honey from one hive, my previous best being 100 lb. —ELVEY E. SMITH.

Queries and Replies.

[1368.] *The "W.B.C." Section Rack of Hanging Frames.*—I wrote to B.J. office the other day for the numbers of BEE JOURNAL giving dimensions and instructions to make the "W.B.C." section-rack for hanging-frames, but was informed the instructions I wanted have not appeared in print. I have adopted the "W.B.C." pattern, and am making hives for next year. Knowing how willing you are to help those who make their own appliances, I venture to ask if you could give me the measurements of the section-box, which completes the hive, as described in "Guide Book," page 47. Thanking you in anticipation,—J. C. BAMLETT, *Penzance, September* 18.

REPLY.—As already stated, no instructions for making the section-box and hanging-frames for sections designated as above have been printed. Indeed, we do not think it would tend to increase the favour with which the "box" is regarded to advise its being made by the ordinary amateur joiner. As a matter of fact, the efficiency of the hanging-frame depends so largely upon the perfect accuracy with which it is made that we strongly advise the purchase of a "box" made by a reliable maker as a pattern, not only for measurements, but for details only to be gathered from a well-made pattern.

[1369.] *Blending Beeswax and Honey.*—Can beeswax and honey be made to blend chemically? I can do it mechanically, but it always separates at the melting-point.—BLEND, *Glasgow.*

REPLY.—If beeswax is boiled in water to which potash is added it will dissolve, and can be mixed with honey.

[1370.] *Number of Bees Required for Safe Wintering.*—1. Are bees which now cover fairly well about five frames of comb sufficient to winter safely if given plenty of food? 2. What is the lowest number frames of comb and bees capable of wintering in safety? 3. Drones have been raised in worker cells on a comb which also contains drone-cells. The queen is one of this year. What is the reason of this?—B., *Chester, September* 19.

REPLY.—1. If queen is young and prolific, and bees are not old "worked out" ones, there is no reason why they should not winter safely. 2. As implied in the answer to first query, it is less the number of combs covered with bees now than the respective condition of the queen and the inherent vitality of the bees which governs safe wintering. We have known little over a pint of bees to winter safely, and make fine flocks the following season with a little care in nursing. 3. The queen is a drone breeder, and consequently useless.

[1371.] *Bonâ-fide Cottagers.*—Will you kindly inform me if a single young man (member of a County B.K. Association), aged 19, living in lodgings, paying 2s. per week rent for them, and earning about 16s. per week, is a bonâ-fide cottager, and eligible to exhibit in a cottagers' class for honey in any shape! There is nothing in schedule to define a cottager.—NOVICE, *Ross, September* 16.

REPLY.—In view of the particulars given we have no hesitation in answering "Yes" to the above question.

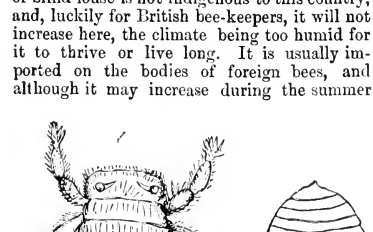
[1372.] *The Chapman Honey Plant.*—I stand alone in this neighbourhood as a bee-keeper, and have no one to advise me. I therefore appeal to you for help in the following fix: I have a drill 80 yds. long, in which are at present growing 170 plants, *Echinops Sphærocephalus*, Chapman honey plant, raised from seed sown in spring. They are too thick to remain where they are, and I don't know at what distance to transplant them. The farmers about here cannot help me, as mine are the first specimens of the Chapman honey plant that have been grown here, and, being only a girl, I don't know what to do.—MAGGIE O. SMYTH, *Carsontown, September* 18.

REPLY.—The plants as now growing are too close together. We should thin them out to one-half the present number. Full particulars

as to cultivation appear in our issue of April 11, page 141.

[1373] *Bee Parasites.*—On Tuesday last I drove (from a straw skep) a stock of bees which had sent off a strong swarm early in the summer and united them to a frame hive. The operation was very successful; the bees in the skep were strong and ran well into the other skep and afterwards into the frame hive. I removed the queen with a few other bees as they were ascending and placed them in a box. On examining them later in the day, I found two parasites of a reddish colour about the size of a pin's head on the queen, in the region of the thorax, some of the other bees being similarly affected. These parasites seemed active and to irritate the bees considerably at times. I did not notice that the main body of the bees were suffering from the parasites, and the skep, in which the bees had wintered and passed the summer, was in good condition and quite sweet. I should be glad if you would tell me the name and habits of these insects or give me a reference to some book where I can obtain information. Also whether they are injurious to the queen and other bees generally, and what steps should be taken to get rid of them.—R. B., *Beckenham, September* 19.

REPLY.—The above query crops up as regularly as each autumn comes round; it may be well, therefore, for the benefit of those still ignorant of the bee-pest referred to, to again give an illustration, together with particulars regarding it from B.J. of September 27 last year, which reads as under:—The *braula cœca* or blind louse is not indigenous to this country, and, luckily for British bee-keepers, it will not increase here, the climate being too humid for it to thrive or live long. It is usually imported on the bodies of foreign bees, and although it may increase during the summer



BRAULA CŒCA.

season in the south, our winters are generally fatal to its continued existence. The parasite has a special partiality for the queen-bee, which is usually pestered by from four to ten of the active little creatures. The accompanying illustration represents the parasite (much magnified, of course), in its perfect form and also in its undeveloped condition. Fumigation with tobacco smoke causes them to drop off the bees and combs, when they may be brushed from the floor-board and burnt. The floor-board should then be washed with diluted carbolic acid, and if this operation is repeated a few times the stock may be rid of the pest.

[1374] *Wintering Weak Stocks.*—Referring to the bees upon which you kindly advised me in the B.B.J. of August 15, 1895, they seem stationary, and I fear cannot live through the winter, as they have no stores and the bees do not increase. We are feeding every evening. Can one continue this right through the winter? or could we unite bees to them now? I fear it is too late in the season. There are bees on four frames, two of these but half-filled with comb. I should be glad to see a bee association for Devon. Could you give some hints for forming one in your columns? —GLYNN GRYLES, *Honiton, September* 18.

REPLY.—Feeding may continue so long as the bees continue to take food; but you should be quite sure they are not queenless before taking any trouble with them, so far as feeding up for winter. In any case, their paucity in numbers and stores augurs badly for their wintering safely without the addition of a driven lot of bees. Mr. Huckle, sec. of the B.B.K.A., will supply information as to the establishment of county associations.

[1375.] *Missing Queens.—Uniting.*—On August 14, I divided a stock of native bees and introduced an Italian queen in cage, but found her dead (in cage) forty-eight hours after. I introduced another queen on the 24th ult., by Simmins' process; but, although the queen was not thrown out on following morning, I have since failed to find either queen or any traces of brood. 1. Is it possible for her to be in hive? Before introducing second queen the queen-cells were cut out. On examining the parent stock, Sept. 17, I find no trace of brood, but a good number of drones present. 2. What time of the year is it usual for queen to cease breeding for the season? 3. If I fail to find queen in divided stock would it be better to re-unite with parent stock? I am feeding up with this in view.—NOVICE, *Newport, Mon.*

REPLY.—1. It is quite possible for queen to be in hive, although our correspondent failed to find her. An examination should, however, show either eggs or brood in comb, otherwise it looks as though she were missing. 2. An entire absence of brood at this date, coupled with the retention of drones, is strong presumption of queenlessness. 3. We should advise joining up, but the bees should not be fed before hand. Join up first and feed afterwards. Is there no bee-keeper near at hand willing to assist in finding the queens and advise you on the spot as to what is best to do under the circumstances?

Bee Shows to Come.

September 28. — Roxburghshire B.K.A. Annual Show in the Corn Exchange, Jedburgh. Numerous prizes. Entries closed Thos. Clark, Secretary, Pleasants, Jedburgh.

October 8, 9, 10, and 11.—Dairy show at the Agricultural Hall, London. Liberal prizes in five classes for honey. Open to all. Entries closed.

October 19.—Lanarkshire B.K.A. annual show of honey and bee appliances (appliances open to all), in Public Hall, Larkhall. Also general meeting of members same day at 5 p.m. Entries close October 12. Schedules from John Stevenson, secretary, Merryton Braes, Larkhall, N.B.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

JACQUES (Dorset). —*Perforated Dividers for "Wells" Hive.*—The use of perforated metal for dividers tends to defeat the object Mr. Wells has in view—viz., to induce the bees of both compartments to form one continuous cluster. Very thin wood is the best material for this purpose; metal—by reason of its coldness in winter—the worst. It is, we think, advisable for all who work bees on Mr. Wells's plan to procure his pamphlet on the double-queen system, which may be had direct from the author for a few pence.

BEGINNER (Tenbury).—*Late Drones.*—Owing to the continued honey income in some districts, drones are being tolerated in stocks to a later date this season than we remember them to have been for many years past, and it is quite possible your case is simply one of several we know of where the queen is all right and breeding well. We should, however, examine the combs to make quite sure of the presence of a fertile queen before finally packing away for winter.

"BOX" (Feltham).—*Transferring Bees from Crooked Combs in Frame-hive.*—It is now too late to operate as proposed. We should leave the transferring till next year. Then set the one hive above the other, and let the bees transfer themselves on to full sheets of foundation.

S. M. (Yorkshire).—No. 1 sample is fair in quality, but too thin to be called good honey. We should say it is from clover and other mixed sources. No. 2 is a very nice honey, but could not be sold as "pure heather," seeing it is largely mixed with other honey.

G. A. (Fulham).—*Adding Driven Bees to Stock in Frame-hive.*—After driving, throw both lots out on to a temporary platform fixed in front of frame-hive, and sprinkle a little very thin scented syrup on them as they run in. The best queen of the three lots of bees should be secured beforehand, and caged on a comb in frame-hive, destroying the others.

H. E. JEAL (Tonbridge).—You are quite right; we wrote under the impression that the proper quantity of N. Beta had been mixed with the food in the first instance, in which case the additional 70 grains would have been a big overdose. Much obliged for the correction.

SAM (Dover).—Comb is badly affected with foul brood.

J. A. AIKEN (Kish).—*Quality of Honey.*—We judge that your honey was deemed lacking in consistency, to cause its being passed over. It is of fine colour and good flavour, but too thin to rank as a prize honey.

M. L.—There is nothing in dead bees sent to indicate the cause of death. The presence of one or two wasps among them and the bodies of the bees indicate that fighting has been rife; but, beyond the fact of the perforations in queen excluder being possibly too small, we cannot say why numbers of dead bees were found between sections and excluder.

WM BRIGGS (Dorking).—*Sugar Samples.*—Nos. 1 and 3 are quite suitable for bee-food if pure cane. No. 2 is a granulated yellow sugar more suited for spring use.

VERAX (Birmingham).—*The Dairy Show.*—1. It is hoped that an observatory hive or two may be staged at the Dairy Show, and there is usually a small exhibit of bee appliances, but these are only an adjunct to the Show proper, which is limited to honey and honey products. 2. The Show season is now nearly over; we can, therefore, only refer you to our list of "Shows to Come," on another page. 3. Leave the seven frames in hive for winter as they now stand, and set on the enamel quilt below the others, *not* over them

CONSTANT READER (Mount Azay). — The stock is evidently affected with foul brood of a bad type, and we advise its entire destruction at once.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

3 CWT. RUN HONEY, 6d. per lb. PULLEN, Ramsbury, Hungerford. Sample 3d. J 59

HONEY.—Fine 1-lb. SECTIONS, carefully packed on rail, 7s. doz. P. LELLIOTT, Fulbourn, Cambs. J 52

HEATHER HONEY, also Clover, in 1-lb. Bottles, price 1s. each, packed. J. CARRINGTON, Avenue, Bakewell J 48

Editorial, Notices, &c.

ORGANISATION FOR BEE-KEEPERS.

THE VALUE OF A "COUNTY LABEL."

In a recent leading article the *Standard* says:—The correspondence on bee-keeping which has appeared in our columns during the last few days has many features in common with the letters we have published of late on other departments of rural industry. Again and again the cottager has been told that he must follow the *petite culture* of the French peasant, and learn to produce some of the thousands of pounds' worth of articles of food sent us by the foreigner, though they might quite as easily be grown at home. Honey more especially was recommended as suitable, and bee-keeping societies are unwearied in their exertions to encourage this fresh departure. So far these efforts have been successful But the complaint now is, on one side, that there is no market for the honey, and from the other that the only honey to be had is a vile concoction which had never had any relationship to flowers. To a certain extent there is some foundation for both grievances. Organisation is wanted to bring the producer and the consumer together. A correspondent points out how this is done in Berkshire with perfectly satisfactory results, and no doubt the system might be made general all over the country. But to do so, the bee-keepers who are members of the various associations must possess that modicum of acquired skill necessary to success in every occupation. And, above all, the honey farmer, no matter on how small a scale he works, must be honest. The Salvation Army dealer will otherwise find that a reputation for piety will not long make glucose pass for the genuine article; while the simple cottager who sells wax "naturally mixed" with forty per cent. of hard paraffin may, before long, have to explain how it is done to an unsympathetic bench of Magistrates. Leaving out of account these ingenious rogues, it is clear that, with some business aptitude, there is still a fairly paying market for all the good honey that is for sale. The truth is that the organisation is lacking. All the little bee-masters around a country town rush to the local grocer's with it. And, as that middleman is soon stocked, he naturally does not care to buy except at a price which yields a profit to one party only. But if the primary principle of business—not to sell on a falling market—is neglected, either through ignorance or necessity, nothing can save the needy seller from the consequences of his act. However, it must be remembered that honey is not like strawberries. If well put up, it can be kept until prices improve, and as there is a period between one season and the next when honey is scarce, the improved value pays very good interest to the men who can "hold his produce." Agriculture, moreover—even the keeping of bees—is undergoing a remarkable revolution, which, though unpleasant to those who suffer by it, must be taken into account. The native bee-master has no longer the business in his own hands. Foreign competition is keen, and from the extensive apiaries of Southern California and other parts of America thousands of tons of honey come every year. No doubt, a great deal of what passes as such is quite innocent of honey. It is largely adulterated, or is sometimes even the output of a chemical laboratory. Still, much of it is a very respectable article, carefully harvested, and put on the English market with all the precautions calculated to meet the public taste. Above all, the grocer can make certain of receiving a steady supply of a perfectly uniform quality, and as soon as the customers get accustomed to a particular brand, be it of butter, or cheese, or dried fruits, or jam, or honey, it is difficult to persuade them to take any other, It would be idle, and, perhaps, not altogether to the dealer's interest, to tell these inexpert folk that a particular quality of honey is equal or superior to what they had last week, when he finds that, as soon as they acquire a liking for it, nor more is to be had. Hence the large grocer will scarcely look at the little grower, who comes with forty or fifty, or even with a hundred, pounds. That is not enough, he will be told, to keep his trade going for a month. Hence, he prefers to buy the Californian importation, even though it yields him no more profit, if he cannot reckon on being steadily supplied through some such agency as that which the Secretary of the Berkshire Bee-keepers' Association and other correspondents describe. The labelled guarantee of such a society is itself a "brand." Nor should it be forgotten that there must necessarily be different brands; for different districts, owing to a variety of pasturage, produce honey widely unlike. For this reason, it would be unwise to have co-operative districts too large. Naturally, the variously flavoured honeys must compete with each other. Yet, so long as they are the best of their kind, no great harm would result. Butter and cheese and meat have to undergo competition of this kind, and England is large enough to indulge in such a multiplicity of tastes as to afford all brands a fair field, as soon as the consumers learn to distinguish artificial glucose from natural honey.

BRITISH BEE-KEEPERS' ASSOCIATION.

The next conversazione will be held at 105, Jermyn-street (close to Piccadilly Circus), on Thursday, October 10, at six o'clock. Mr. A. D. Woodley, hon. sec. of the Berkshire B.K.A., will read a short paper on "A Tour with the Berkshire Bee Van." Members desirous of introducing other subjects for dis-

cussion, or submitting new and improved appliances for consideration, are requested to communicate with the secretary. — JOHN HUCKLE, *Secretary, King's Langley, September* 30, 1895.

"CASTING BREAD UPON THE WATERS."

A bee-keeping friend known to many of us has made a suggestion to which we should like to accord the fullest support. He considers, and so do we, that it would become those who are interested in Association work to show an appreciation of long services rendered by one who, though in no sort of a way occupied in apiarian work, has in a constant and unobtrusive way (not in money help), done a great deal to advance bee-keeping. This looks like a riddle to those who are not in the secret, but if we were to explain details at the present stage of the project we should rob the plot of all its pleasure. In order to further its success, we content ourselves with saying that we shall be very much obliged indeed to those friends, to whom we never appeal in vain, if they will at once send us either a section or a bottle of 1895 honey—we should like good honey, of course—but ever so little from each, so that the bulk will be thoroughly representative English, Welsh, Irish, and Scotch all joining hands. *We must have it before October* 8—or at latest by October 10, the earlier the better—addressed Editors BEE JOURNAL, 17, King William-street, Charing Cross, W.C. We have confidence that our friends will give us *carte blanche* with each contribution, and we promise them that they will not be disappointed when we have the pleasure of publishing details of the whole proceeding.

Already we are able to announce several promised contributions of honey for this object: E. D. Till, H. W. Brice J. Garratt, J. H. New, Rev. G. W. Bancks, Miss Biggs (Eynesford), Mr. Bradshaw (Eynesford); and a section of clover honey from a Scotch bee-keeper, who is now in London, Mr. Robert Kerr, Newhouse Farm, Dalry, N.B. This is a good beginning. Each friend must tie sender's name and address on each section or bottle, otherwise, so many small parcels of similar shape arriving simultaneously at our office, may render identification very difficult, if not impossible.

THE DAIRY SHOW.

TO INTENDING EXHIBITORS.

Sample bottles of Mead and Honey Vinegar for non-competitive exhibit in the B.B.K.A. annexe at the Dairy Show should be addressed, carriage paid: "Secretary, Honey Department, British Bee-Keepers' Association, Agricultural Hall, Islington, London," to arrive on October 7. Be sure each sample is labelled with sender's name and address.

A REQUEST.

Will the Secretaries of County B.K. Associations send at once to Mr. E. D. Till, Eynsford, Kent, three specimen county labels? Unfortunately, several that were previously furnished, which are adhesive, have been spoiled by adhering in transit. We are pleased to receive already a sample of the Lincolnshire label from our friend Mr. Cribb.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

**** In order to facilitate reference, Correspondents, when speaking of any letter or query previously inserted, will oblige by mentioning the number of the letter, as well as the page on which it appears.*

BEE JOTTINGS.

FROM HIGHWAYS AND BY-PATHS.

[2208.] *The Honey Market.*—At this time of year, and in so good a season as it has been in the south, there is a tendency to flood the market with the year's produce. With a large amount of "stuff" on hand representing so much cash, the temptation is great to realise quickly; consequently prices rule low, and, after all our care and anxiety, work, and worry, our honey is sold at a price which largely reduces our profits. Few bee-keepers can resist the temptation of placing their harvest on the market as soon as gathered, and the net result is usually disappointing. Contrasted with the many products which, being "perishable," must be placed on the market and sold at once, it should yield considerable comfort to the bee-keeper to know that honey well harvested will keep good for years; and, in the case of some honeys, literally improve by keeping until granulated. Bee-keepers, therefore, in their own interest, cannot do a more unwise thing than crowd the market as soon as the season closes, causing the price of good honey to be much less than quite inferior honeys will realise three months hence. I have known bee-keepers so anxious to handle the "coin" that they would part with their goods for half-value to sell "at once." This is a great mistake; "small profits and quick returns" are all very well in some cases, but when an article will keep A1 for years, and in view of the fact

that bad seasons are as sure to come as good ones, it is sheer folly not to reap the benefit of the "fat years" by holding on to our stores until the lean ones are come—as come they will in their turn. My advice is, to those who have good honey to dispose of, don't be in a hurry; let the rush come and go. A few weeks' waiting will bring the consolation that a good article generally fetches its price. Foreign honey we need not fear, and with own name, and the county label on every package or jar, we shall reap the profit which the over-anxious ones missed.

Queen-Bee Eggs.—I have recently come across some bee-keepers who seem to be under the impression that (to quote from the *Bee-Keepers' Review*) "when queens are desired, the queen, if not entirely disabled, deposits an egg—*the proper one for the purpose*, &c." Now I am positive that there never was a graver error, than to suppose that this is so. It is tantamount to saying that a queen is capable of laying three kinds of eggs, viz., those from which workers are produced (the fertilised eggs), those producing drones (the unfertilised eggs), and those that generate queens (the eggs of doubtful quantity). It only requires a careful study of the anatomy of the queen bee to be perfectly certain that there is only *one* kind of egg in the queen's ovaries, and that the difference resulting is invariably brought about at the time, or just before, the egg is deposited, and that difference is either positive or negative—in other words, "male or female," as the case may be. There is no provision in the structure of a queen's organs for another kind of egg in any shape or form, and the sooner the bee-keepers in question disabuse their minds of this fallacy the better. The difference between a worker bee and a queen bee is simply brought about by the quantity and quality of the food given, and the turning-point or crux of the whole question resolves itself in what is known as the "weaning period," which occurs about the third day of the growth of the larvæ.

Foul Brood. — The *Bee-Keepers' Review* says:—"F. B. is not transmitted through the queen; at least, this seems to be the decision of all practical bee-keepers who have had to do with the disease." The late Mr. Cheshire found spores in the ovaries of a queen; and Mr. McEvoy says: "I have taken home a great many queens that have been removed from diseased colonies, and used them in my apiary, and no disease has been transmitted by this course." It is well known that spores have, since Cheshire made his discovery, been found in the blood and tissues of all bees from diseased hives, queens and workers alike, and in the face of this fact and of the perfect cures we read of under treatment which would certainly fail in this country, the question arises, is the F.B. of America the same virulent disease as that which we know here by the same name? Some weeks ago I discussed the subject with one of our county experts, having at the time several diseased hives under consideration, and he agreed that there could be no question, as he had tested it on several occasions, that treatment of the bees and hives and changing the queens had always effected a cure, and he considered the latter part of the programme the most essential. I can only say I should not care to run the risk of using a queen from a diseased hive, and if the facts be as Mr. McEvoy states, I am doubtful if the disease is of the same nature as ours.

The Season in New Zealand.—Reports say that the present winter is the wettest they have had for several years. From beginning of June to end of July scarcely a day passed without a heavy downpour of rain.

Crimson Clover.—American bee-journals are just now giving great prominence to the crimson-clover as a good honey plant, which it undoubtedly is. Why its merits have been so long hidden is, however, what puzzles me. Surely they have grown *trifolium incarnatum* before 1895? In this country the trifolium has long been known as a honey plant, yielding nectar freely, but we have found out what our American cousins will probably do after it has been tried, viz., that the honey from it is by no means first-rate. I mean, of course, if the plant is *our* trifolium, and I have little doubt it is.

The Honey Crop in America. — From the reports in the *Canadian Bee Journal* it appears that the honey crop is in many districts a total failure this year, mainly owing to the drought of last year and the severe winter. G. M. Doolittle says, "This has been the poorest season for twenty-five years."

DO BEES FORM ANTIPATHIES?

BEWARE OF PYRETHRUM!

[2209.]—Several years ago my bees gave me a great surprise. I went to the hives, as I was daily doing, in fine weather, and I think I got as far as unroofing one. Almost instantaneously the band began to play all around me in a key of all "sharps." The attack, musical and military, was decisive. Like a late noble statesman, who in Africa was not a bit afraid of the lions, I wasn't afraid, but the notice to quit was so peremptory I had to "go." I don't remember running, but I hastened.

Almost simultaneously, with a curious wonder as to the cause of the change of disposition on the part of my warm (and sometimes *attached*) friends, the solution of the problem occurred to me. I had been pricking out pyrethrum from a seed-bed and transplanting it to a border. Pyrethrum is deadly to insects, and its odour is one of their pet aversions. Any bee-keeper objecting to this *ipse dixit* can experiment for himself. I went straight to the bowl, washed my hands, using carbolic soap, and returned immediately to the

work I had in hand with the bees. Whether they were forgetful or forgiving I don't know, but they were as gentle as sucking doves, and this not more than three minutes after the outbreak of hostilities.

It is a pity bee-keepers should scare themselves with the fear of losing nerve; far better patiently seek to trace the connection between cause and effect. I like the term "bee-master," for that is what every good bee-keeper will be, without asking leave.—S. JORDAN, *Bristol, Sept.* 27.

SOUTHERN HEATHER HONEY.

[2210.] Mr. Jacomb Hood's letter last week, and Mr. Webster's letter in this (p. 387), are valuable for the information they afford on the subject of Southern heather — nevertheless the information is disappointing inasmuch as Southern heather seems of little worth. I do not think bee-keepers sufficiently understand how greatly the bee pasturage may vary even in a single parish—one side of it may yield superb honey —the other may produce honey unfit to eat. I was struck this season (and my hope is that the peculiarity of the season may account for it) on tasting some honey from Brasted in Kent, and some of very similar colour and flavour from the other side of Westerham, near Edenbridge, it was dark and unpalatable, it is sufficiently disappointing to bee-keepers in those parts, but the distribution of such honey to shops and private customers is detrimental to the demand for the home product—no one would buy it a second time—on the principal of "one black sheep spoiling the flock," I consider the use of the county label on such samples ought to be forbidden. I see my bees are now revelling in ivy blossom. Either for pollen or nectar.—A. BEILLE, *September* 27.

EXAMINATION FOR EXPERTS' CERTIFICATES.

[2211.] I note your unfailing courtesy with correspondents, and thank you for replying to me lately in B.B.J. *re* difference chilled *v.* foul brood.

Referring to examination of candidates for experts' certificates, do you not think that something more definite should be laid before candidates for the various certificates? I note in B.B.K.A. report what is required for first and second class examinations; but both are run into each other, and it has occurred to me that it would be fairer and less bewildering to candidates if they knew what was required of them for the second, and what for the first, and the one set of subjects separated from the other. I called the attention of the secretary to this, but he replied that he knew of no other list. You sympathise with definiteness, I know, because in the late article in B.J., wherein you said that candidates for third-class should know just what was required of them. As I have lodged 10s. with the secretary for the second-class examination, I should like to know if there is anything more definite for me than the list given in the B.B.K.A. report.

I am here for a rest. Success to your efforts and mine (for B.B.J.).—EXCELSIOR, *Ilfracombe.*

[The "paper work" for the first and second class certificates covers the whole subject of bee-keeeping, including the natural history of the bee, and practical bee-keeping in all its details. We cannot, therefore, well see how this could be altered. Then first-class candidates have, in addition, to deliver an extempore lecture in public, and undergo an oral examination besides. This statement seems to us sufficiently definite. So far as the paper-work is concerned, second-class candidates require to know as much as first-class, and it it is impossible to separate the subjects, seeing that they are practically the same. If our correspondent will look into the matter again in the light of the above remarks, we fancy he will be quite prepared for all that is required of him as a candidate.—EDS.]

BEE-KEEPING MEMS.

[2212.] The season in these parts has, after all, not been a very good one.

The honey flow began in May, almost before the bees were ready, and ended about mid-June. The fierce drought—nine weeks without rain—scorching up the clover heads and flowers generally.

I wintered ninety-two stocks, leaving them 30 lb. each of stores with dummy-boards and six thicknesses of quilting. In spite of this I lost thirteen stocks from various causes. This left me seventy-nine alive, and then I had to unite three of the weakest.

Out of seventy-six thus left with which to begin the campaign of 1895, five yielded nothing, and the remaining seventy-one gave 1,837 lb. of run honey—an average of about 25¾ lb. per hive. About half my queens were one year old, and none are more than two years, as I make it a rule to re queen half my stocks every year.

Swarms.—I had none, owing, I think, to my method of tiering.

Do Bees steal Eggs?—I am sure they do. One of the above-mentioned weak stocks, having a drone-breeding queen, I killed her on June 25, and on August 21, on opening the hive to put in a driven lot, I found a young queen and eggs!

Bees Carrying Eggs.—This they also do. Another of the weak stocks, referred to above, being queenless, I suspended a queen in wire cage between the combs containing a queen from a driven lot. After hanging twenty-four hours I was obliged

to take her away to again replace her at the head of her own bees, the queen with the latter having got accidentally killed. I find the queenless lot has now some brood and queen cells, a clear proof, I think, that the bees carried eggs from the queen whilst confined in the cage.

I have invested in a Porter "Bee-escape," and find it a very great comfort. Its price—2s. 6d.—however, is rather against it, seeing how little it is required, and in a large apiary like mine a supply of escapes is a serious item.

Rapid Feeding.—The slower this can be done the better, provided there is time. I find from experience that rapidly-fed stocks are generally weak in the spring.—APIARIST, *Fairspeir, Ascott-Wychwood, Oxford, September* 30, 1895.

ADULTERATED WAX.

IS BEESWAX A DRUG?

[2213.] I read further cutting from our Maidstone paper relative to magisterial decisions. Cranbrook Bench did not consider beeswax a *drug*. Bearsted fined an offender heavily for vending wax of which only about 25 per cent. could have ever had any connection with *bees*. Could not you publish that portion of the report recently issued by the Royal Commission on Adulteration, in so far as it relates to beeswax?

[If of sufficient interest to readers we will do so.—EDS.]

Our bees will wax "waxy" if their good name is used in so wholesale a manner to describe such rascally compounds. — KENT BEE-KEEPER, *September* 26.

[The cutting enclosed reads as under:—EDS.]

"'A member of the Kent Bee-keepers' Association' writes to applaud the decision of the Bearsted Bench in the matter of adulterated beeswax. 'I sell the wax produced in my apiary to some manufacturers of patent medicines in the north—one firm being noted for its pills and plasters. This entitles beeswax to rank as a "drug." I hold Cranbrook to be wrong taking any other view.' Cranbrook will know better next time. 'Beeswax is in no sense a "drug" *in the market*. Pure samples are in request and fetch a good price. I know two makers of bee-keeping appliances—one a Kentish man—who take trips abroad and especially to the West Indies in search of new sources of supply. But much of the foreign beeswax is greatly adulterated. There is a peculiarly fine aroma with pure beeswax, and it is not a little difficult to discriminate in the beeswax classes at our honey shows. Beeswax bleaches by exposure to light. An exhibitor I know recently endeavoured to hasten the process by means of sulphur. The judge's nose detected this, and, as the aroma was also injured by the process, the exhibit took no place.'"

DO BEES CARRY EGGS?

[2214.] In reply to Mr. W. Woodley (2176, p. 364) on the above question, I would refer Mr. W. to my letter (2158, p. 345) in which I distinctly state that the queen was received in one of "Mr. Brice's" cages and this was the cage used. I have no doubt that Mr. W. will remember that it was fully described and illustrated on p. 235 of the JOURNAL, and if he will kindly read the description and look at the illustration I have no doubt he will clearly see through the arrangement at a glance. At present I am afraid that he is just a "wee bit" mixed in the cage, and confounds this cage with the Root and Howard cages, which I believe some time ago he said, in "Notes by the Way," he uses. I have always used the Howard cage up to this time, and the arrangements are somewhat different, because, in the "Howard" cage the bees eat away the food from the feed-hole and the queen walks out to her duties, but in the "Brice" cage after the cardboard slide in the bottom of wooden portion of the cage is withdrawn the queen and the few workers caged with her enter the wire mesh or perforated compartment, which, as I said in my letter, was pressed well into the comb and honey. Consequently there was no ingress or egress via the feed hole into the hive, and I expected the bees would eat their way into the cage, and thus release the queen, but this they did not do, though they had commenced to do so when I liberated her on the Wednesday. This, I think, disposes of the second question: Why the queen was caged from Friday till Monday, *i.e.*, just because the bees did not liberate her? besides which, as I said in my letter, I do not care for too much fussy manipulation.

I think Mr. W. has made a slight error here. I said the queen was caged from Friday till Wednesday, not Monday, and on p. 346 I gave my reasons for keeping the queen caged so long.

The question of queen re-entering the cage is rather far-fetched and wide of the mark, because she had never been released, consequently she could not go back again into the cage. I am pleased that Mr. W. is trying to get more light on this interesting subject, and, in my opinion, he would see more light if he had for examination one of Mr. Brice's cages.

I hope to meet friend Woodley at the Dairy Show and the quarterly meeting of the British, and then we may have a chat on this and other matters. — PETER SCATTERGOOD, JUN., *Stapleford, Notts, September* 30, 1895.

P.S.—I would have replied before, but have been from home enjoying a much-needed rest at the seaside.

A NEW FEEDER.

[2215.] In answer to Mr. W. B. Webster's remarks, 2196, p. 383, permit me to explain my method of feeding, which, I think, can be utilised for a rapid feeder, and yet do away with the bits of muslin, and your correspondent's two days' work; it also carries out his idea of a feeder close to the frames.

I use a wood cover with $\frac{1}{4}$ in. space above frames; this gives ready access to every frame. In centre of cover I cut—with a fret-saw—a hole $3\frac{1}{2}$ in. across. I then take two ordinary self-opening 2-lb. golden-syrup tins; the lids I fit with a piece of $\frac{1}{2}$ in. wood cut as follows: One half of the circle is made $3\frac{1}{8}$ in. across, the other half is $2\frac{5}{8}$ in. across, this leaves $\frac{1}{2}$ in. space half-way round the lid. My next step is to fasten the wood into the hollow of the lid with a screw in centre from inside. The wood will now turn round like a wheel, and shut off to any number of holes I require; a dozen holes half round the lid completes the feeder, which holds just 1 lb. of sugar when made into syrup. I fill my tins at home, put on the lid, turn the wheel, and close the holes for carrying it to the bees. Arrived there, the hive is uncovered, and the wheel of tin turned to the number of holes required; give the empty tin a screw-round to release it from propolis, lift it off rapidly, and replace with the full one. The few bees adhering to the empty feeder-lid are allowed to run in at hive entrance.

I have been well pleased with this feeder. It works well in practice. Fifty tins can be filled if required, and charged, the lids changed as wanted for use. There is no trouble at the hive. The merest novice, if veiled and a carbolic cloth ready, need not fear to change the tins, and be safe against accident. As the wood stands up above the lid, and the bees cluster on it, very little tin comes in contact with the bees; besides, a tin vessel is also safer against accident than glass.

Here is Mr. Webster's rapid feeder at once: two self-opening 7-lb. tins (larger if you like), fitted-up as above, will just meet our friend's wants. Where a quilt is used instead of a wood cover, a stage will have to be made of $\frac{1}{2}$-in. wood with a fret saw, and a $\frac{1}{4}$-in. window-lath nailed on for bee-space.—A WORKER, *Long Eaton, September* 31.

AN ASSOCIATION FOR HERTS.

NEED IT BE RESUSCITATED?

[2216.] I venture to assert, Mr. Editor, that if bee-keeping is to make progress in the county, a well-organised and well-managed association, embracing the whole county, is absolutely indispensable. The formation of such an association with an energetic executive would, I am sure, soon obtain suitable recognition from the Technical Committee of the Herts County Council. It is well known that this committee is very favourably disposed towards the promotion of all small industries connected with agriculture.

The existing local association at Bishop Stortford might form a good nucleus for such an association, providing its executive were favourably disposed towards such an extension.

I am under the impression that your correspondent "Amateur Expert" (2185, p. 374) refers to the Herts Technical Instruction Association. A useful institution, no doubt, in its way, but in no sense constituted to carry on the work of a bee-keepers' association.—HERTS, *September* 28.

[2217.] I am very pleased indeed to think there is a prospect of a bee association for Hertfordshire. I have for two years wished for one, and know others of the same mind in this locality. I have read your excellent JOURNAL for six years, along with many first-class authors on bees and bee-keeping; but ever since I have kept bees I have felt much the need of a *practical hand* to look into my hives when I am at home to watch his manipulations.

I am perplexed too about queens, and about sealed brood, the difference between sealed *honey* cells and sealed *brood* cells, and several other hive matters.

For three years I have had no swarm, have not seen the usual drone massacre at the end of honey flow, and have received honey but from one hive out of three this year. The strong colony has given me about 30 lb. of honey, filling beautifully a box of shallow frames and a *few* sections imperfectly. The section foundation was that *white* wax which the bees do not take to, and to this fact I ascribe a loss of honey, the bees preferring rather to put honey in brood chamber than carry it into such sections. I am sorry to say that my stock of section-foundation is entirely of that composition. I have suffered a deal this summer from bee stings in the hands, though protected by gloves, so I sent for a well-known "remedy," and went to work with impunity; but only to get a dozen stings in my hands.

This large dose swelled my hands and arms a good deal, with the usual irritation for days. Do let us have, if possible, a Bee association for Hertfordshire, where bee-keeping is increasing.—"SOLICITOUS," *Hertford, September* 27.

A LATE SWARM.

[2218.] It may interest you to know of a "later" swarm than the one mentioned last in your pages, for a stray swarm visited me on Sunday, September 22, about two o'clock in the afternoon. They were a very small swarm, and not worth hiving. I had them put into a skep, taking the queen away, and left to do as they pleased. Some tried to enter my hives, others fled.—B. J., *Aylesbury, September* 28.

CLIPPINGS.

FROM THE AUSTRALIAN "BEE BULLETIN."

[2219.] *Honey Labels* v. *Government Seal.*—At the Convention of bee-keepers held at Melbourne in July, the question of honey labels was discussed, and it seems that the Government seal occupies the place of our county association label. This seal apparently takes the form of a guarantee that the goods are of good value. If that idea works out satisfactorily it looks as if they managed the honey-selling business better over there than we do here.

Australian (*Victoria*), *Honey Resources.* On reading the account of this I was amused by the queer names of the various honey producing plants, shrubs, &c. Here are a few names with description of honey yielded by some:—"Yellow-box" (good flavoured light honey), "gray-box" (dark honey), "stringy bark" (still darker honey), "red-gum," "messmate" (*eucalyptus obliqua*), "manna-gum," "penny royal," "white-gum," "black-box," "yellow-box," "blue-box," "apple-box," "box-thorn," "mallee," "Ti-tree," and "shrub-box." The "boxes" have it, and as I know you have B.J. readers both in Australia and New Zealand, it would be interesting if any of them could give us the botanical names of these box plants and some information as to their honey-yielding qualities. White-clover, *eucalyptus*, peppermint, lucerne, &c., are also honey plants in the colony.

Shipments. — Australia exported from Victoria during the half-year ending June 1895, 86 tons of honey. The report goes on to say:—"We have just began to fight our way forward, and will meet with many difficulties needing patience, tact, and perseverance to overcome the obstacles purposely placed in our way."

Mr. E. Meadows, of Trengrouse & Co., London, said:—"The price of Australian honey a few years ago was 56s. to 60s. per cwt." His past experiences were, however, rather unfortunate, for, "after selling a few lots to dealers, he was unable to quit any more in that direction on account of bad flavour, and had to sell the balance to blacking manufacturers. For medicinal purposes the colour was unimportant," and "they need not be discouraged by all they saw in print."

Mr. Chambers, another bee-keeper, observed that "honey shipped to South Africa sold freely; he had also sold to France and Germany, and had an offer from Germany to supply regular quantities, but an import duty of nearly 15s. per cwt. had recently been imposed. This," he said, "would stop trade."

Black v. *Yellow Bees in Australia.*—The same authority says:—"To a large extent the working qualities of bees have been sacrificed to prettiness." Mr. Benhue remarked that "black bees were quite as industrious as yellow ones, but were not so prolific. The hybrid combined most of the desirable points, being both prolific and hardy."

Foul Brood.—Referring to this subject, Mr. W. Symes observed:—"With black bees, he found them so subject to foul brood that he despaired of getting rid of it; but he had introduced Italian bees, and the disease gradually disappeared." Mr. Bolton agreed in this view as to foul brood. Mr. Russell and others, however, preferred "hybrid bees, as they could be handled quickly and easily; black bees were more liable to disease than hybrids." Mr. Adams preferred "first-cross hybrids for honey gathering."

Australian "Honey-takes." — At the Bathurst Convention, reported in the same journal, a bee-keeper, located at Orange, stated that, between the months of October and April last, he had five tons of honey from twenty-six colonies! while at Wattle Flat four bee-keepers last season netted £991. Another bee-keeper, Peterson by name, netted £602 the same season, and another took from 100 colonies 12½ tons! I leave it to our B.J. readers to say which of these "takes"—"takes the cake!"

Samples for England. — Mr. Micklejohn spoke in favour of sending samples of honey to England free of cost. Last year he "sent four cwt. to Scotland, and paid all expenses, and hoped to be successful." Mr. Gale said "agents preferred dark honey to light, as it permitted the use of glucose. New arrivals in the colony told him "our honey was superior to anything they had in England."—*Verb. Sap.*—H. W. BRICE, *Thornton Heath, Surrey.*

Queries and Replies.

[1376.] *Dealing with Queen-Cells.* — Last June, before putting on a rack of sections, I inspected the brood-combs in a strong stock. Finding five queen-cells capped over, I removed one comb, and placed it in an empty hive, together with the bees clustering thereon. A queen hatched out and got mated properly, and they now form quite a strong stock, as I have fed up well. The other frame which I took had two queen-cells; both being left for the bees to select which they would have, and after a few days I found both had hatched out, but one queen had evidently been thrown out of hive by, I suppose, the first that hatched out. I waited for results and found no brood or eggs being laid, nor could I see any queen. There were, however, plenty of drones flying about, too many, I think. A frame of brood and eggs was then given from another hive and queen-cells were started but not finished. I waited until all the brood had hatched out, and then gave them another frame of brood and

eggs. From this last, when I looked a week ago, I found a beautiful queen-cell capped over, but, as I have not inspected yet, do not know if she is hatched out. The cell measured quite an inch long on the face of the last comb given, evidently selected from an egg. I noted also several drones in the hive quite young, and several patches of drone-brood not capped over, built out on the face of worker comb. Now, is there any prospect of this queen, if hatched out, being any good? The weather is certainly very June-like, and these young drones might mate with her. What was the reason why the two first queen-cells failed?—S. T. B., *Bexhill-on-Sea.*

REPLY.—It appears to us that the queen must have failed in mating, otherwise there is a laying worker in the hive in question; only this can account for the drones. From the size of the last cell built, we should not be surprised if this was raised on a drone larva. A careful search is necessary to ascertain whether there really is a queen or not in the hive, and steps should be at once taken to provide it with a laying queen if the stock is worth saving. If weak, it should be joined up to another stock.

[1377.] *Bees Entering Dwelling-houses.*—Can you tell me why my bees should have taken to coming into the house this month?—numbers are in the scullery and also in the morning-room. One or two here and there in other rooms. The supers have been taken off and we are feeding all the hives.

There is no honey or syrup about in the rooms referred to. If there is anything we can do to induce them not to come in I shall be glad to know it.—C. F. W., *Hants.*

REPLY.—It is quite certain that the odour of the honey removed from the hives is attracting the bees to the house. Personal experience has proved to us that, with proper care, bees may be entirely prevented from following the track of honey taken from them. They are, however, very keen at scenting it out if left exposed in any way, especially at a time like this, when all natural inflow has stopped.

[1378.] *Food for Winter.—Capacity of the Standard Frame.*—1. What is the least number of frames of stores on which one could with safety leave a stock to winter? 2. What is the average weight of stores a standard frame holds. I take this opportunity of thanking you for the globe thistle seeds you kindly sent me a few months ago. The plants are flourishing, though they have not, of course, flowered.—R. DYMOND, *Southgate, September 19.*

REPLY.—1. If full—or three-parts full—of stores, four standard-frames would hold amply sufficient to winter a stock. The bee-keeper must, however, use his judgment in endeavouring to secure 16 to 20 lb. net of food for each stock, apart from weight of combs or any pollen they may contain. 2. A standard frame of comb, if entirely full of sealed honey, usually weighs from 6 to 8 lb.

[1379.] *Cleaning up Frames after Extracting.*—After extracting honey from frames in July, I gave them to the bees again, hoping they would clean them out ready for storing away for winter. But during this long spell of fine weather in September I find some of the frames have been partially refilled. What do you recommend met to do?—NOVICE, *Colchester, September 26.*

REPLY.—It does occasionally happen that bees act as stated above. And we have ourselves been found in a like predicament. We got over it however by putting an enamel-cloth quilt between the box with frames for cleaning up and the body-box, spacing the frames in former wide-apart, and covering lightly with a single quilt. In time the honey was carried below by the bees.

[1380.] *Queen Missing.*—In examining my hives I found two broodless. In one there was a fine queen, but could see no queen in the other. Both are swarms of last year, and fairly strong. How can you account for this?—JAMES COALIS, *Tiverton-in-Avon, September 24.*

REPLY.—We should say that the bees had deposed their old queens, and that the young ones subsequently raised had not yet begun to lay. It will be necessary, at this season, to closely watch these hives, and see that there are fertile queens in both before it is too late, otherwise the stocks may be lost.

[1381.] *Combs for Driven Bees.*—I am short of worker-combs for giving to condemned driven bees. Shall I give one or two shallow frames in the middle, and give sheets of foundation in the spring?—A WELSH READER, *September 29.*

REPLY.—If you have frames of worked-out shallow-combs by all means winter the bees on them. You can give full sheets of foundation in standard frames in spring by fitting up a body-box with these, and setting it below the box of shallow frames in April or May. The latter will eventually become a surplus chamber, and may be removed as such next season.

[1382.] *Dealing with Foul Brood.*—I have seven stocks of bees, two in a Wells hive, and five in single hives, one of which was very weak and gave no surplus this year. From the other six I obtained nearly 250 lb. of honey. Two of the single hives are stocked with hybrids, and as they are rather savage I intend requeening with native queens. On examination a few days ago I noticed in two or three frames several cells with holes in the capping, and the brood dead, also uncapped cells, with half dry dead brood sticking to the sides of cells. I can detect no bad smell from

them. I had surplus-boxes of standard frames on at the time, and entrances full open, and thought that perhaps at night the bees had clustered thickly in the warm super, and so left some of the brood on the lower part of frames uncovered and so chilled. I enclose a piece of comb and shall be much obliged if you will give your opinion on it, as to (1) whether it is a first stage of foul brood or only chilled brood. If the former is there any need to destroy frames which were in super? They are new this year and only been used for honey. (3) Had I better requeen hybrids now or wait until spring (of course I should give fertilized queens)? (4.) If now, had I better feed slowly to stimulate new queens, or simply pack up for winter? I have left sufficient stores for winter, so they will not require feeding on that account.—BEE-KEEPER.

REPLY.—1. The stock is affected with foul brood of a rather bad type. 2. We should melt the super-combs down and use the wax got from them for household purposes only. 3. If the stocks referred to are so vicious as to render requeening desirable, we should do it at once. It is easier and more advantageous to get fertile queens now than in spring. 4. If food is right do no stimulating, but pack for winter soon as convenient.

[1383.] *Queenless Stocks—Old Queen.*—I have three hives, queenless, but fairly full of bees. Also one hive with a very old queen. Should I buy Liguarian 1895 queens, with a pound or two of bees to unite to each of the above? And where could I buy really healthy bees, and at what price? For hive with old queen would it be best to get a Ligurian queen, and introduce her now, or wait till spring to do this? I often think how useful it would be if a travelling bee-expert could be started to traverse the country in autumn and spring with bees, appliances, and to examine the hives of lady bee-keepers like myself. There is no one near who can help in the least, so I have to do everything single-handed. 3. Is the smoker advertised in BEE JOURNAL as "Expert Smoker" really worth buying, and do you know if it allows both hands to be at liberty as it professes?—*M. L.*

REPLY.—1. Queens (Ligurian or otherwise) should be given at once. A young queen and bees as proposed might well be added to the queenless stocks. For price refer to our advertising columns. 2. Introduce a new queen without delay. 3. As the smoker in question, is cheap and highly recommended by the maker, our correspondent had better try it.

[1384.] *Queen Rearing.*—I should very much like your opinion, through B.B.J., of a hive I have just completed, and intended for queen rearing. Inside dimensions are as follows:—23¼ in. by 14½ in. by 8½ in. The body box is divided into four, by three perforated "dummies" $\frac{3}{16}$ in. thick. The floor-board I have not yet "sunk" for bee-ways, not being satisfied as to whether it would be best to make all four entrances on one side, or one at each end and two in front. 1. Do you think it a feasible plan to work four nuclei together? 2. Would perforated crown-boards with quilts above—be better and safer to work with than quilts alone? 3. Will two entrances at front and one at each end be more likely to give better results than all four entrances at front?—TYRO, *Cumberland, September* 30.

REPLY.—1. The plan proposed has been tried before, but abandoned in favour of separate nucleus boxes. 2. Quilts alone are most suitable if the whole be covered with a sound roof. 3. An entrance on each side would be best.

[1385.] *Clearing up Wet Combs after Extracting.*—1. How do you get your combs cleared by the bees after extracting without setting the place in an uproar? If you can find room for details please do so. I have tried placing the combs above the bees, with and without excluder between; with and without quilts between; with and without quilts over all, and yet cannot succeed. They don't clear up their own combs, but visit those of other hives with the usual rowdy result. 2. How is wax run into small moulds? I melt a good deal in the usual smelters, but don't see how to manage filling the small mould without waste of wax, time, and, I expect, patience.—J. P. S., *Penryn, September* 22.

REPLY.—1. Wet combs for clearing-up should be given to the bees after nightfall, when, if all access to them from the outside is carefully guarded against, there should be no such result as named above. We do not wonder at an uproar being caused if the tops of wet combs are left exposed quiltless. The smell of the honey through roof-ventilators would cause it at once. 2. Pour the hot wax into moulds, after slightly damping the latter, and let it cool very gradually to prevent cracking.

Bee Shows to Come.

October 8, 9, 10, and 11.—Dairy show at the Agricultural Hall, London. Liberal prizes in five classes for honey. Open to all. Entries closed.

October 19.—Lanarkshire B.K.A. annual show of honey and bee appliances (appliances open to all), in Public Hall, Larkhall. Also general meeting of members same day at 5 p.m. Entries close October 12. Schedules from John Stevenson, secretary, Merryton Braes, Larkhall, N.B.

INSTRUCTION IN BEE-KEEPING.

A RUSSIAN METHOD.

SOMETHING LIKE A TRAVELLING BEE-VAN.

"The Acclimatisation Society of Moscow must," says *Nature*, "be credited with more than ordinary originality and ingenuity in its efforts to improve the system of bee-keeping in vogue among the Russian peasants. Antiquated and unremunerative methods of hive management are still in general use in Russia, and in order to diffuse a knowledge of the more rational methods of modern apiarists the society last year organised a travelling bee-keeping exhibition upon a novel and, as it proved, most successful plan. A barge, seventy metres long and eight metres broad, was procured and fitted up with a museums, a garden with trees and flower beds, hives of all kinds, old and new, and a number of hives with living bees; there were also dwelling-rooms for the travelling staff. The museum contained examples of bee-keeping appliances and products, together with a set of preparations illustrating the structure and life-history of bees and their natural enemies. The staff in charge of the exhibition consisted of a practical bee-keeper, two entomologists, and ten men-servants for the vessel. The floating exhibition was towed down the river out of Moscow by twenty horses, ten on each bank; and six towns and about twenty villages were visited between the old capital and the town Kaluga. The travelling was done during the night. During the day, from 8 a.m. to 9 p.m., a halt was made at some town or village; the objects in the museum were explained to visitors by the staff, and the methods of working the model hives were demonstrated to the bee-keeping country folk. The exhibition has worked with great success. The great expense which this interesting and instructive exhibition demanded was most willingly defrayed by Herr F. Motschalkin, who is himself an enthusiastic bee-keeper."—(*Communicated*)

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

E. H. C. (Par Station, Cornwall).—*Sainfoin and Buckwheat*).Any good seedsman will supply seed of above with cultural directions. Write Carter & Sons, seed growers, London, or Sutton & Sons, Reading.

NORTH YORKS (Helmsley).—*Italian Queens.*—1. The queen sent is what is known as a "leather-coloured" Italian. Though not so attractive-looking as the "yellow" variety, their progeny are often the best of workers. 2. There is no reason to suppose the queen to be unfertile. 3. "Piping" in the cage seldom occurs, but is simply the result of the abnormal condition in which the queens find themselves. 4. Doolittle's book can be had by writing the author, G. M. Doolittle, Borodino, Onon Co., N.Y., U.S.A.

JAS. G. GODWIN (Withington).—Thanks for sending the tin "end," which we will forward to W. J. H., Norwich, as desired.

S. M. HARDY (Aldbrough).—*Colour of Wax.*—The "cappings" must have got soiled in some way to yield wax of no brighter colour than sample sent, unless the "sooty" appearance is derived from melting in rain-water. A little oil of vitriol—added when melting—will improve the colour.

A. J. MOORE (Newton Abbot).—*Unripe Honey.*—The honey sent is so thin and unripe as to be altogether unfit for keeping; in fact, it begins to show signs of fermentation already. Whenever honey is in that condition the very thin portion should be given back to the bees as food, and only the bottom, or thick part, used as table honey.

S. CRAWFORD (Lisnacloon).—*Bee Books for Retailing.*—The books referred to may be had from this office (in dozens), with the usual trade discount of 25 per cent. for cash with order. We cannot say why you got no reply to your letters, if addressed properly.

R. H. CLOUGH (Littleboro'.) *Selling Combed Skeps.*—The best way we know of is to advertise them in our "prepaid" column.

C. HOPKINS.—Comb is affected with foul brood; destroy the combs, frames, and bees at once, for the sake of the healthy stocks adjoining.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

QUEENS, Tested, '95 Natural raised. I have a few more left, at 2s. each. Shall not keep them after this week. A. J. CARTER, Newfields Apiary, Billingshurst, Sussex. I 70

FOR SALE, well bound "BRITISH BEE JOURNALS," 1887, 1888, 1889, 1890, 1891, in splendid condition. Also, unbound, 1892, 1893, 1894. WM. KEENE, Widford, near Ware, Herts. J 62

BULBS from the Grower. Largest Yellow CROCUS, White, Purple, each 1s. 6d. 100; 7s. 500; Common, 1s. 100: Blue Scillas, 1s. 6d. 100. 5s. orders carriage free. W. MERCHANT, 2, Maldon-terrace, Foleshill-road, Coventry. J 61

WANTED, SECTIONS and EXTRACTED HONEY. Packages lent free to Bee-keepers and Associations. Prompt cash. State lowest price, enclosing stamped envelope, to Rev. W. HANDCOCK, Hampton Hill, Middlesex.

Editorial, Notices, &c.

USEFUL HINTS.

Weather. — It will require a good memory and an old head to recall so generally fine an autumn as we have now passed through, the abnormally high temperature for several weeks past having been the subject of comment not only in our home but in that of most European countries and of America. The "Heat Wave" — as it was termed — extended far and wide, in this country temperatures of 80 to 85 degrees in the shade being recorded in many places during the month of September. Referring to the exceptional heat of that month, the *Standard* says :—

There were twenty-two days at Greenwich with a temperature of 70 deg. or above during September, and, with the exception of 1865, this has not been exceeded since 1841 ; but the month just closed has the largest number of days of any September with a temperature of 80 deg. or above. During the past summer, from April to September inclusive, there were 100 days with a temperature of 70 deg., and this is the greatest number of warm days since 1868, with the exception of 1893. There were twenty-six days during the whole of the six summer months with a temperature of 80 deg. The mean temperature in September was 64 deg., which is as warm as any of the preceding summer months, and the mean of the highest day readings, 75·5 deg., was higher than in any of the summer months. Both the mean and the average maximum are higher than in any September during the last half-century, with the exception of 1865, when the day readings and the mean were about 1 deg. higher than in the month just closed. The mean temperature for the whole of the summer, from April to September, was 59·6 deg., which is just 1 deg. below the mean temperature of the six summer months of 1893 ; but with this exception it is the warmest summer since 1868, when the mean was 60·4 deg. The total sunshine during September in London was 195 hours, which is about 15 hours less than in August, but 20 hours more than in July.

It needs no saying that, for bees, the autumn has been one of the most favourable within living memory. Wherever nectar-yielding flowers grew honey has been gathered right down to the last day of September, on which day the long period of more than summer warmth suddenly came to an end. The storm of the 1st inst. brought not only "the wind and the rain," but an abrupt lowering of the temperature, which in some places fell as much as 30 deg. in a few hours. Since then we have had wet and cold enough and to spare.

Strengthening our Associations.—The year is just out, and all concerned should now be thinking how we can strengthen the "British" and its affiliated County Associations by the introduction of new blood on the various committees and councils. Members who have the well-being of their associations at heart should suggest the names of capable gentlemen willing to serve. We think the idea recently mooted in our columns — of adding a representative for Scotland to the B.B.K.A.—well worth consideration. We ought to secure all the able entomologists we can, provided, of course, that they are something more than mere "ologists." Business men are wanted, for unless our philanthropic associations are conducted on business principles they certainly won't prosper.

Winter Stores for Bees.—It may be safely assumed that some readers will—in spite of repeated warnings—be in arrear with their bee-work, and be hurrying up with syrup-making, only to find the bees declining every inducement to "carry it down." On this point we agree with the bees. Watery syrup-food is not only bad for their bodily health to-day, but worse for their well-doing in the future. The "big candy-cake" alone must, therefore, be relied on for making good any scarcity of stores found after October sets in. We are asked, "What weight of food is sufficient to winter a stock of bees safely?" Well, broadly speaking, 15 lbs. of stored food in October will keep a big stock alive till the end of March. But it should be that weight *nett*, otherwise we should make assurance doubly sure by giving a 3 lb. cake of candy in addition. Another querist asks as to "equalising the food in hives." Here again a word of caution is needed. If all stocks are known to be healthy, only all-round good can result from taking superfluous combs of food from hives over-supplied and giving them to others known to be short of stores ; but there is so much of risk in "interchanging" combs wherever the slightest uncertainty as to foul brood exists, that we hesitate to recommend it,

just as we do the interchange of floor-boards. "Once bitten, twice shy," should be borne in mind by all who know what foul brood is.

EUCALYPTUS HONEY AND FOUL BROOD.—A correspondent sends a cutting from "Rural Notes" in the *Liverpool Mercury*, which reads as under:—

In Mr. Smith's (Queensland) notes last week it will be noticed he remarks there is no foul brood amongst bees in that country, but it is a great pest in all other parts of the world. Why this should be will, no doubt, be a matter which some have considered since reading the note in question. I am of opinion it is owing to their being so much associated with the eucalyptus. From what Mr. Smith says, the composition of the combs, as well as a great deal of the honey that goes into them, must be largely composed of eucalyptus. As yet the eucalyptus honey is not very well known in England, but the liquid extracts of eucalyptus, as sold by chemists, is well known, and it has now taken a foremost place as a disinfectant, disease preventer, and sanitary agent. Its properties combat foulness in all forms, and I have come fully to the opinion that it is the use the bees in Queensland make of the eucalyptus flowers that enables Mr. Smith to assert that foul brood is unknown in the country of his adoption.

We should only be too pleased to receive confirmation of the above evidence as to the value of eucalyptus for the purpose referred to, and will endeavour to obtain information on the point from Australia. We have yet to learn, however, that foul brood is unknown in the country of his (Mr. Smith's) adoption, having very reliable evidence to the contrary.

BEE-KEEPING AND THE PRESS.—We are again pleased to acknowledge the valuable help rendered to our pursuit by the numerous and frequent allusions to bee-keeping, its usefulness and its delusiveness, its pleasures and its pains. We make this acknowledgment, notwithstanding the fact that—as we think—more prominence is given to the "kicks" than to the "ha'pence," seeing that it does good to have the "craft" talked about. And if a bee-keeping correspondent of the "papers"—who is so lacking in ordinary business capacity as to sit down with his bee produce on his hands, and complain of inability to turn it into cash—if, as we say, this individual gets more prominence for his "wail" than is given to the assurances of those who *can* sell their honey, we must content ourselves with knowing that things will come right in the end. It is, however, none the less true that the reverend correspondent of the *Standard*, who could "find no market whatever" for his honey (60 lb. or 70 lb. in all), has had his statement repeated in the Press all over the kingdom; while the equally definite assurance that another clergyman—of whom it was stated a couple of days later in the same paper that he had "not the smallest difficulty is disposing of his crop (1,350 lb.!) at top prices"—has been allowed to pass unnoticed. This is scarcely fair.

It is hardly worth noting with what eagerness certain of the daily papers seize upon the "Fatality" scare in connection with bees. "Death through a bee-sting" is a familiar heading to paragraphs where, in the vast majority of the cases quoted, death occurs from causes apart from the bee or its sting at all. Another "line" taken by the bee paragraphist deals with the scientific and useful purposes the poor bee may be trained to accomplish. The *Daily Telegraph* says:—

Englishmen are determined to be thoroughly prepared for the next great war, as far, at all events, as the Intelligence Department is concerned. Not content with balloons and pigeons, they intend to enlist as letter-carriers the humble, industrious, and swift-flying bee. An apiculturist has already commenced their training. After a few preliminary trials he says he took a hive of them to the house of a friend four miles distant. After some days, when the bees had become familiar with their new surroundings, some of them were liberated in a room, where they soon settled on a plate of honey which had been specially prepared for them. While they were busy eating it, their trainer placed on their backs the tiniest of despatches, fastened with the thinnest of thread, and so arranged them as to leave the head and wings absolutely free. They were then thrown into the air, and soon arrived at their home with the letters on their backs. The writing was magnified and quite legible. Here, then, is an opening for a new industry. In the time of war bees would have the advantage over pigeons of invisibility, and might go through the enemy's lines with impunity. Whether they would resist the temptation of a luscious flower on the road is another thing. The apiculturist who discovered the new letter-carrier is a genius.

We could go on proclaiming our indebtedness to the Press for rendering such kindly help to apiculture in the way of

"free ads.," not forgetting the many "dailies" and "weeklies" which regularly include a "Bee-Column" in their pages. But we will conclude by offering a "hint" to the editor of one journal in the Midlands—who "cultivates" bees in his paper in this way—by way of remarking that, in a recent article on "Observatory Hives," he slightly confuses his readers by an illustration in which the hive is shown standing on its head!

WEST CALDER AND DISTRICT B.K.A.

This Association, which was started in the spring of this year, held its first annual show on Saturday last, and, notwithstanding the backward season, a pretty fair competition took place. The exhibits being uniformly good, the judge had some difficulty in giving his awards, which were as follows :—

Top-Box of Flower Honey.—1st, James Gilbey, East Calder.

Top Box of Heather Honey.—1st, Wm. Kay ; 2nd, Alex. Walker ; 3rd, Jas. Gibson, all of New-park.

Ten 1-lb. Sections.—1st, Alex. Greenhorn ; 2nd, Wm. Gowans ; 3rd, R. M. Cormachie.

Ten 1-lb. Sections Heather Honey. — 1st, Walter Wate ; 2nd, R. M. Cormachie ; 3rd, Alex. Hall.

Six 1-lb. Jars Extracted Honey.—1st, Alex. Greenhorn ; 2nd, Alex. Hall ; 3rd, Jos. Michell. —*Communicated.*

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

NOTES BY THE WAY.

[2220.] Once more October's sombre tints are visible on the foliage in the distant wood as I write, and the long-continued summer weather has broken up. To-day we are having heavy rain, which at the rate of the past twenty-four hours will soon supply the 5 in. deficiency our meteorologists say we lack as compared with ordinary seasons.

Disposing of the honey crop with some bee-keepers seems to become a more difficult job as the years roll by. I have had many inquiries this year for a market for honey, and am sorry to say I have not been able to be of much service to inquiring friends. I consider the most important point is to hold your customers after you have secured an order. Practical experience tells me how difficult this is in some cases, especially in places where an abatement of 6d. in the dozen will secure an order for the new producer, as against the old supply. Where the seller has only a few dozen sections or bottles to dispose of from his few hives, the reduction does not make much difference ; but where a large number of sections are put on the market, 6s. or 12s. in a gross makes a considerable alteration in the "tot-up." This is why I would like to see "a Price Current" in our JOURNAL at least every fortnight, so that bee-keepers in the country would know the state of the market. The association agencies are a step in the right direction, as is the "county label" ; but what service are a few agents with so large a supply ? Again, honey in sections is liable to deteriorate considerably in damp weather, especially unprotected honey, and in very cold weather from crystallisation. Here is a distinct loss to the trader who has been induced to buy a larger quantity than he has immediate sale for. These items of "loss and deterioration" have a twofold effect on the future sales of our commodity, because the retailer buys sparingly, and his customer, remembering the poor quality of a previous purchase, is shy of buying again, consequently sales drop off. This subject ought to engage the serious attention of bee-keepers. Many people—other than bee-keepers—do not care what becomes of their produce after it is delivered to the buyer. But is this a likely way of keeping up a connection and securing future orders ? I should say certainly not. I want to put my comb honey into my customers' hands so that they shall secure a growing trade in honey, and in such condition that their customers shall state a preference for my brand of comb or run honey when ordering another supply.

Cleaning up Combs. — The super-clearer forms a capital platform on which to stand a box of combs—after extracting—for the bees to clean up. Lay your quilt on the frames with the feed-hole left open; take the "escape" out of the board, place the latter on the hive and the box of frames for cleaning up on the board, wrap carefully so that no bees can get in from the top. The bees will clean the combs dry ready for packing away. When putting them away place a couple of lumps of naphtha-line and wrap in a sheet of paper, and store in a dry place.

Referring to the word polyphagon (2196, p. 383), ought not this word to have been printed polyflagon (many bottles) ? If Mr. W. intended it as a new word to express *many eaters*, from *polus* (many), and *phagus* (eater), the rapid feeders hitherto in use should be

dubbed polyphagons rather than the inverted bottles on a board, seeing that the six 1-lb. bottles (even wide-mouth Breffit's tie-over squat jars) will not enable so many bees to feed at one time as the rapid Canadian-feeder shown in B.B.J. advertising pages. In all my feeding of bees I have never had a rapid feeder. My feeders (and they are many) are made from the 3-lb. jam bottle to the 1-lb. tie-over jar. I do no tying of muslin over mouths. Cut a piece of zinc or tin half an inch wider than the mouth of the jar; turn ¼ in. back on each side so that the turned edges will clip over the mouth of your jar, punch some small holes, cut a hole in a piece of wood and insert your bottle of syrup over feed hole of quilt, wrap up so that bees and wasps cannot get to the bottle. Of course the thick lips of the jam jars will want ¾ inch to an inch to turn back to clip their mouths securely (this is one of my wrinkles how I make it pay).

Referring to "F. B." and the introduction of queens from foul-broody colonies, E. R. Root says in *Gleanings* (page 709), "A few years ago, when the disease raged with us so badly, I took at different times queens from a dozen badly-affected stocks and gave them to healthy ones. These remained healthy in every case." He then goes on to say that Cheshire saw, or *thinks he saw*, foul-brood germs in the ovary of the queen. In *Review* for September, p. 256, Hon. R. L. Taylor, Michigan's State apiarist, at his experimental apiary, says, "I took a queen from a colony affected with foul brood of the worst description, and the case was of such a serious nature that at least one-half the brood was dead. This was on April 20, the queen was caged, and placed in a healthy colony. This colony was strong and apparently in excellent condition, except that it was queenless. In thirty-six hours the queen was released, and accepted by the bees, and began to deposit eggs within a few hours. The colony prospered better than the average of the colonies in the apiary. It has been carefully examined at divers times for any appearance of foul brood, but up to the present time no indication of the disease can be discovered."

I beg to thank Mr. Scattergood for the fuller information on the queen-cage. If he has had the handling of many queens, he will admit how prone they are to slip into any pop-hole in the combs, and I have had them this season run out of a cage over my hand and back into the cage again. I read a description of the "Brice" cage when it appeared (illustrated), and was under the impression that the bees did the final *release* themselves; therefore, my premises that the queen *may* have returned to the cage of her own free will, or being near to the cage when Mr. Scattergood opened the hive, slipped in out of the way, was not very "far-fetched," or not more so than that bees carry eggs—presumably deposited by the queen—through the wire cloth on the mandibles (or in the pollen baskets!) of the workers—for the purpose of depositing in the cells. If these workers had set about constructing queen cells around these transmitted eggs, that would have been another point in favour of the carrying if these identical cells were carefully watched to development. Or may not these eggs, after all, have been the production of a fertile worker bee? "More light," said the dying Goethe. Turn on the search-light, says W. WOODLEY, *Beedon, Newbury.*

REMARKABLE LONGEVITY OF DRONES.

[2221.] In several counties, especially in the south, there is a particular sort of drone that survives the severest winters, and, so far as I have observed, they far exceed in longevity the life of the queen. Your able correspondent from Thornton Heath may find it worth while to devote his attention to this singular and hitherto unreported circumstance, so as to corroborate my observation. They are certainly found in Kent, Surrey, Middlesex, and Essex, but so far none have been remarked this year in either Herts or Sussex—*i e*, *I* have not observed any. No doubt some of your readers will remark, as I have done, that though these drones do not exist in large numbers, they have a most disastrous and depressing effect on the workers. Were their places supplied by good *workers*, I am sure the best results would follow. Will you kindly inform me how they can be ejected? I name them "typical" drones (*Typicalis*) because their activities are wholly confined to figuring in "Type." The workers do not seem to have the power of turning them out.—T. D. ELLIOTT, *September 5.*

P.S.—Since writing the foregoing, I learn that specimens of Typicalis ♂ were observed in Hertfordshire many years ago, but for some reason "fighting" was set up, "dwindling" then followed, and finally they disappeared. Hertfordshire bee-keepers should take care, or they will reintroduce the nuisance. If county B.K.A. members are in any doubt as to the character of supposed *workers*, let them send full description to 17, King William-street, and obtain a reliable opinion. I quite believe I shall discover a female—a real specimen of Typicalis ♀, they are, however, much rarer than the males, but I know there *are* female drones—even though "H. W. B.," or you, Messrs. Editors, may discredit my assertion.—T. D. E.

A NEW FEEDER.

[2222.] I was pleased to see that someone besides myself had found golden syrup tins useful for feeders. But "A Worker" gives himself a lot of work which might deter many from adopting them in the way described on page 306. I use the tins in a much more simple way and find them very useful. When

wanting a slow-feeder I prick a very small hole in the bottom of tin so that the syrup will drop very slowly or only just ooze out, and enlarge the hole if I want to feed rapidly. It can be made a fast or slow feeder by a tap of the hammer to lessen size of hole, or enlarge a little with bradawl or point of pocket-knife. There is thus no changing tins, but just lift lid, and put in what syrup you think necessary. They can be easily moved about, too, from one point to another on hive by making a small hole in any position you wish, and if one uses impervious quilts it is easy to fold down a small square or open it again.

Speaking of impervious quilts, I use a material which I have never seen mentioned by any writer on quilts. I mean the "patterns" of linoleums, &c., which are sent out to large furnishing houses. They are printed in oils on a stiff brown paper, and answer admirably.

They can generally be had from these houses for nothing after the patterns have gone out of date. They vary in size, some as large as 26 in. by 17 in., and, as the cost is trifling, can be renewed on becoming sticky with propolis. In my opinion they are equally good as American cloth. — G. C. Lyon, *Hastings.*

AN ASSOCIATION FOR HERTS.

AN ANSWER WANTED.

[2223.] Referring to my letter in your issue of September 26 (2202, p. 315), I do not see any reply as to the work and membership of the Bishops Stortford B.K.A.—as asked for by me—nor from "Amateur Expert," as to how many bee-clubs *he* has started and kept going? I thoroughly agree with your Eynsford correspondent in declaring that "Amateur Expert's" letter is mischievous. I could use a stronger word. The above are straight questions, and your readers look for a plain answer.—A. Prior, *October* 5.

THE AUTOCRAT OF THE BREAKFAST TABLE.

[2224.] Once a week "as regular as clockwork," my faithful friend arrives with a postman's rap. He usually comes in time for breakfast. If downstairs, I welcome him at the door; if not, my servant takes him to the breakfast-room to await me. He is so full of information, and always so communicative, that I anticipate his visits with ever-increasing pleasure. My best attentions are accorded him, and he ever takes priority of other visitors. The *Times* lies neglected whenever he is at our board, and letters, even though addressed in a lady's hand, remain unopened on the table. With a quick incisive movement of the hand, I bid him "take off his coat," and at once set him at liberty to begin our intercourse; an intercourse so absorbing that our attention is completely diverted from all that is moving around. Perhaps a voice of entreaty reminds me that I "have cut no bread" for the hostess: and when a storm seems brewing from behind the teapot, our intercourse suffers a momentary interruption, only, however, to recommence with ever-increasing earnestness. I fear the duties as head of the table are sometimes neglected, but did you know the charm which my companion carries into all society, considerateness would acquit me of blame.

A voice from behind the teapot, remonstrant in its tones, urges me to eat the toothsome "rasher" ere it gets cold; my friend is then under compulsion, as it were, to "shut-up" in order that I may "save my bacon." I have not ventured to guess your riddle of last week —can you guess mine? Who is my friend and what is his name, and on what day does he come? Perhaps you may think this a *jeu d'esprit*, but I assure you I write in all seriousness.—B. South, *October* 4.

SELLING HONEY.

[2225.] I take the liberty of sending you a photo of our stand of honey and bee appliances, just as we have shown at five of our local flower shows. Visitors seem interested in examining the same, and *our* interest has, of course, been centred in selling the honey to them. We have taken 430 lbs. from seven hives, two of them being swarms I bought, not having had any swarms ourselves. I might say that we (my son and I) have learnt a great deal from the B.B.J. We use the smoker and carbolic cloth, and neither of us got stung at all during the whole of this summer. We have built a bee-proof house, in which is kept all the bee tackle; and here we do the extracting and bottling up. A large cupboard wherein we keep different appliances is also most useful, and I strongly recommend such a place in every bee-house.—R. I., *Rochester, October* 3.

[Many thanks for photo and above letter, which serves to show how bee-keepers may, by the exercise of a little of the business tact employed in every-day affairs, create a market for their bee-produce.—Eds.]

POST ENTRIES.

IN CONNECTION WITH "THE PLOT."

[2226.] With reference to your appeal on page 392, headed "Bread Cast Upon the Waters," you do not seem willing to wait "many days" for the "bread." Surely "post entries" are possible, or your foreign friends will feel hurt. Remember that your correspondents are not all within the narrow limits of our inland postal area, and it will be as impossible for your contributor in Minorca, as for the other friends in the Argentine, Syria, Egypt, South Africa, Australia, and New Zealand to get a pot of honey over in less than a week! But the honey will toddle in

from all seven correspondents if you only give them time. Besides, you will probably get a letter from each, which will please us readers of the B.B.J. Ask that the bottles may be labelled with the name of the plants from which the bees are supposed to get the honey. I am curious, rather, to taste Minorca sainfoin honey, and to compare it with my own. I have not observed any letters in your JOURNAL from either Tasmania, Japan, or British Columbia, which is to be regretted. — A. BEILLE, *October* 4.

BRAULA CŒCA.

[2227.] I remember assisting you in procuring a number of bees, with the parasite attached, twelve months ago, for one of your correspondents at Newmarket, under promise by him to contribute a paper on the parasite for the B.B.J. Your reference to the subject, September 26 (1373), reminds me of this promised paper. When is it to be published? A good one would be most helpful.—E. D. TILL, *October* 4.

[If the above reminder meets the eye of the correspondent referred to, we may, perhaps, hear from him on the subject.—EDS.]

FEEDING UP DRIVEN BEES.

[2228.] Referring to the difficulty in feeding up driven bees, I have this year fed up twelve stocks without any trouble whatever and the queens have gone on breeding all the time. I make my own feeders the same as the "Canadian" but without partitions, simply using a square box with a partition behind to form a place wherein to pour the syrup, and a wood perforated float with glass cover. I have not had a single bee drowned or experienced an upset of any kind.—C. RAYNER, *Great Horksley, October* 1*st*.

Queries and Replies.

[1386.] *Queen Cast Out.*—I had the misfortune to lose the queen of one of my hives, and the bees hatched a new one; but from what I had read in your excellent journal I resolved to introduce a fertile queen. I therefore sent for a swarm with tested '95 queen. I received them and, after removing young queen and sprinkling all the bees with peppermint and warm water, I united them very successfully. There were about 100 dead bees amongst the swarm which had died during the journey. They were very calm and have worked well, gathering both honey and pollen, but to-night (September 30) on arriving home I had handed me the enclosed queen, which evidently had been brought out of the hive this afternoon. It appears to me to be in an advanced stage of decomposition. I should be very thankful if you will give me your opinion as to what has been the cause of its death, and also what you would advise me to do under the circumstances. I am only a beginner, and am anxious to have them in prime condition.—RICHARD BRIERLEY, jun., *Preston, September* 30.

REPLY.—Queen sent is not the young queen at all, which latter we expect will be in the hive all right. We should judge the queen sent to have been cast out of the hive many weeks ago.

[1387.] *Dealing with Foul Brood in Autumn.*—A hive very strong in bees is badly affected with foul brood, five frames being almost nothing but sheets of the disease. A mode of curing is given in your issue of June 6 last (p. 221), in which it is strongly advised that no cure should be attempted except on a hive well stocked with bees. I would feel obliged for your advice whether it would be better to destroy the lot, bees included, or attempt a cure as referred to. My own idea is that it is too late in the season to try to cure them.—AN IRISH BEE-KEEPER, *Cork.*

REPLY.—The best and only safe course is to burn bees, combs, and frames at once, and so put them out of the way of doing harm for all time. It would only be waste of time and trouble to attempt a cure in such a case at this season.

[1388.] *A Legal Query.—Who Pays?*—A bee-man sells 2 cwt. of honey to a shopkeeper, who dies, and his estate goes into Chancery. How does "Beeman" know when Chancery settles matters, and where does he look for payment? No solicitor is employed, nor will be, otherwise the "sweetness" of the honey will be totally lost. I should also say the estate was placed in Chancery, not because of want of assets, but of family quarrels.—AJAX, *October* 5.

REPLY.—The above query is so entirely outside, and apart from, "bee-keeping," that we are not even ashamed to confess our entire ignorance regarding it. Perhaps some reader, more learned in such matters than ourselves, will furnish the information asked.

[1389.] *Amount of Food for Winter.—Burnt Honey as Bee Food.*—I have fed my bees on Tate's No. 1 Cube-Sugar, giving 10 lb. of sugar to each hive, and adding two quarts of water according to *Guide Book*. 1. Is this enough to carry them through the winter, and when would they require feeding again? 2. The sample of honey sent is some that I put in the oven to run as it had got granulated, and when reached out the wax had mixed with it. Would this do to give to the bees now? I might say they are driven bees put on combs (*drawn out, of course*).—NOVIS, *Stourbridge, October* 7.

REPLY.—1. Supposing the bees to have had

some stores on hand when feeding began, the amount of syrup given will suffice for the winter. 2. Honey sent has been burnt in melting, and is quite unfit for bee-food in its present condition.

[1390.] *Experience with a "Wells" Hive.*—I have had a very curious experience with a "Wells" hive. About a fortnight ago I found all the bees were on the one side of the division board. I took it for granted that one of the queens was dead, but on examination I found the two queens in the same brood-nest on neighbouring combs. As the bees were very strong. I put the queen (injudiciously as it turned out), which was nearest the division board in the empty compartment of the hive with her quota of brood and bees. Next day I found all the bees had joined her and were on the same side, but I could only find one queen. Making a more careful search the following day I could find no queen at all. On examining the hive to-day, after an absence from home, I have found a queen-cell sealed up, and three or four *drone*-cells with raised seals, but rather small, and a little worker-brood, probably near hatching. There can be, I suppose, no doubt that the hive is queenless. Do you think it possible for the bees to raise a fertile queen, and would you advise me to allow them to try, or should I, whilst there is yet time, unite to adjoining stocks?—T. B. G.

REPLY.—By all means unite the bees to another stock, unless you can procure a fertile queen to give them. It is quite useless attempting to raise queens at this late season.

Echoes from the Hives.

Aberdeen, September 31.—I have pleasure in stating that my quadruple hive has this year yielded me close on a total of 200 lb. This I consider very good, when compared with my single hives, which have been very poor indeed. —WM. MORRISON.

WEATHER REPORT.

WESTBOURNE, Sussex, SEPTEMBER, 1895.

Rainfall, ·92 in.
Heaviest fall, ·75 on 24th.
Rain fell on 6 days.
Average, 1·07
Maximum Temperature, 75 on 24th.
Minimum Temperature, 40 on 17th.
Minimum on Grass, 31 on 17th.
Frosty Nights.
Sunshine, 248·8 hours.
Brightest Day, 5th, 11·50 hours.
Sunless Days, 0.
Above Average, 83·9 hours.
Mn. Maximum, 67·5°.
Mn. Minimum, 50·5°.
Mn. Temperature, 59°.
Maximum Barometer, 30·38° on 21st.
Minimum Barometer, 29·85° on 11th.

L. B. BIRKETT.

BEES OBEDIENT TO TRAINING.

A REMINISCENCE OF WILDMAN.

Though it is customary in many rural districts of England, when bees are swarming, to make a clanging noise with metal implements under the impression—an erroneous one, we believe—that it will induce the swarm to settle, it is not generally supposed that bees are susceptible of being trained to obey in many respects the orders of their teacher. Such, however, is the fact, and an instance of it occurs in the following advertisement which we have copied from an old newspaper. We will give it as we find it, but it is not very clear what locality is meant by "their *proper* places":—

"At the Jubilee Gardens, Dobney's, 1772. Daniel Wildman rides, standing upright, one foot on the saddle and the other on the horse's neck, with a curious mask of bees on his face. He also rides, standing upright on the saddle, with the bridle in his mouth, and by firing a pistol makes one part of the bees march over a table, and the other part swarm in the air, and return to their proper places again."—From "Ten Thousand Wonderful Things."

THE BEES FOR THE HARVEST.

Read at the Indiana State Bee-keepers' Convention.

BY FRANK BENTON.

In colder portions of our country each colony of bees as ordinarily brought through the winter will be found during its early spring flights to contain only a small part of the adult workers necessary to take fair advantage of any honey-yield that is to follow. If an important honey-flow occurs early in the season it is impossible to secure the full advantage of it. The bees to gather the honey are lacking.

The young workers do not normally, even though honey be plentiful in the flowers, enter the field as gatherers before they are about two weeks old; adding to this the three weeks required for the development from the laying of the egg to the appearance of the imago or perfect insect, we see that all eggs to produce workers for a given harvest must be laid five weeks before the harvest begins. But as the amount of brood which may be developed at one time in a hive is to a great extent limited, not alone by the fecundity of the queen, but also by the supply of food, the number of bees to cover the brood, and the temperature about the brood-nest, it is evident that the five weeks required to get one generation of bees ready for the field will not suffice to render the hive suitable populous for a given harvest. It is not at all difficult to have queens whose fecundity is even greater than the ability, early in the spring, of any colony to care for their eggs and developing larvæ and pupæ. Nor

will the careful bee-keeper neglect the second point mentioned, and let the colony lack for food. But the other conditions which limit the increase of population are not so easy to meet. We may house our bees or pack warmth-retaining material about the brood-nests so as to keep the temperature moderately warm and as even as possible, and may thus favour brood-rearing. But we find practically that the only way to secure the desired number of bees in each hive for a given harvest is to see that brood-rearing is going on at a rapid rate some time previous to the five weeks' limit noted. In other words, three weeks or more must be added to this period in order to produce workers in sufficient numbers to care for the main brood which is to develop into the field-bees for the given harvest. Thus our hives, all of which contain at the opening of the spring comparatively few bees besides those which went into winter quarters, and which, therefore, are too old to avail much as gatherers, must, in proportion to the bees they contain, be well stocked with brood eight or ten weeks before the opening of the honey-flow. Moreover, the brood-rearing should be kept up without interruption as long as it is expected that the workers can be utilised in the given flow.

White clover being, in our middle latitudes, an important yield which usually begins early in June, it follows from the above that our hives must be well stocked with brood toward the end of March. It has been argued by many, whose experience it has always seemed to me should have taught them better, that early brood rearing was disadvantageous. Some —perhaps merely for the sake of the notoriety to be gained by being quoted as differing from the majority—have even gone so far as to say that brood-rearing should not be begun before May 1 in our northern States. It is plain, from the facts stated above, that such a plan could only contemplate the securing of a crop of honey in July or later, and would lead to a great disappointment in localities whose main honey flow comes earlier, and where no mid-summer or fall yield occurs. But in most localities in these States there are, aside from these later yields, usually two good honey flows before midsummer—namely, that from fruit blossoms and that from white clover just mentioned ; while in some places a third yield is added—that from tulip trees (Liriodendron tulipifera), called in some localities poplar, and in others whitewood trees. Where these occur there is no reason why the full advantage from all of them should not be taken, yet I venture that not one bee-keeper in twenty realises how far he is from fully utilising these early honey flows, especially that from fruit-bloom. When we are obliged to take time, after the middle or latter part of April, to develop strength in a colony in order to have it ready for a harvest, the early honey flow passes with no return beyond what it furnishes toward building up.

Successful wintering is, then, the first essential toward securing the full advantage from an early honey yield ; and by successful wintering I mean that the colonies ought to reach the earlier honey yield in condition to take full advantage of it—*i e.*, in such condition as regards numbers and health as they are ordinarily found *after* this early yield has passed.

Let us see what course Nature pursues in preparing her willing subjects, the honey-bees, to pass successfully the ordeal of winter and enter upon a season of prosperity. Perhaps we can profit by imitating the plans of the ancient dame, who is supposed to have been wise even in the long-ago ages when our remotest ancestors were but inert molecules.

As a matter of fact, strong colonies of bees located in hollow trees, or in log gums, or in box hives, and whose combs are therefore undisturbed in their natural arrangement, if well provisioned, and so constructed as to be fairly protected from extremes of weather, to permit the escape of surplus moisture, while at the same time retaining during the colder portions of the year as much as possible of the natural heat generated by the bodies of the bees, are, barring natural accidents or provisions having no connection with the above-named conditions, *always* in excellent condition on the opening of spring, and ready to fulfil the double work for which they were created, namely : 1st, the pollenising of blossoms, to the end that more and better fruits and seeds should be borne ; and, 2nd, the collection and elaboration of a valuable sweet. I say *always in excellent condition*, for, if the conditions named above are present, the colony will withstand our coldest winters without freezing ; nor will it starve if well provisioned, for that implies an abundance of good stores suitably disposed for the bees to reach them during any kind of weather ; nor will inclement weather cause the colony to become diseased as long as the bees and their habitation are dry. Colonies in frame-hives can be put into practically the same condition as those box-hive colonies I have taken as examples above. Indeed, if we fully understand those conditions, we can be more sure with frame than with box hives that they are uniformly and exactly complied with.

Some one might argue that, even when the preparation of the bees for their most trying season is left wholly to Nature, such conditions are not always established by our good mother as to most favour the bees. They die. Admitted. Yet this by no means controverts what I have just claimed, for Nature, in working out her laws, purposely sets certain destructive forces over against our protégées. She looks well to all her creatures, and only exceptional merit will cause her to let one kind flourish to the exclusion of others—so nicely is the balance adjusted. And if no checks had been provided the bees would soon have overrun all.

Perhaps a study of these same natural agencies which are set as a limit to bee-life will also be a good lesson—will show us what we must fight constantly, and what to avoid. In a state of nature we find colonies that go into winter with queens decrepit—either prematurely or after years of good service, rendering them unable at the most critical period—late winter and early spring—to keep up the population of the hive, or, again, repeated swarming may have unduly reduced their numbers. Such weak colonies may not be able to keep up sufficient heat to drive off the moisture surrounding the cluster; it gathers and trickles down over the combs and bees, rendering their food sour and themselves unable to withstand a low temperature. The soured food is sure to bring on dysentery if the bees are confined to it for any length of time, or the dampness of the bees themselves, combined with chilling of their bodies, will produce the same effect. Or, again, an unfavourable season has prevented their securing an abundance of stores, or what they may have obtained is perhaps not so located that severe weather will find them able to reach it. Or the bees may have failed to find the most suitable habitation, such as would properly protect them from inclement weather, and permit evaporation without great loss of heat, yet give them pure air. All such causes, unaided by man, combine to exterminate thousands upon thousands of colonies every winter. A man, with his interference in the brood-chamber of the colony, and in the surrounding conditions, is often another destructive agency.

I cannot give here at length the details as to the plan of wintering which has resulted from the foregoing considerations, together with my success and failures of over a quarter of a century—much of the time in very cold climates. The principle is, however, simple, and all who will may apply it. Indeed, it is nothing but what all have been trying to do—namely, to keep the bees warm and dry, furnish them with good food always accessible, and with pure air. This can be carried out either indoors or outdoors, but cellar wintering, or wintering in special repositories, introduces into the problem the possibility of complications, and for the majority, therefore, I feel sure the outdoor plan is the best. For the North, however, all of the ordinary single-walled hives are, for this purpose, an abomination, and not to be tolerated at all. Most of the double-walled hives should be put in a category near to those just mentioned.

The brood-combs upon which the bees are to be wintered, and which contain the winter stores, should be surrounded closely on all sides, above and below, with six or more inches (according to severity of climate) of porous, yet warmth-retaining, material—woollen goods and newspapers are best. There must be several inches of space between the material that is over the bees and the roof of the hive, and this space must be freely ventilated; but not a drop of water must be allowed to reach the packing from outside the hive; the combs must be six or more inches above the bottom packing; the entrance or flight-hole must be wide, so as to give ample lower ventilation, and, where it reaches the alighting-board, preferably 10 in. below the bottoms of the combs; between the latter and the flight-hole there should be a screen, to prevent draughts of air from rushing against the combs; the food should be well-ripened honey or properly-made syrup, and either case a plentiful supply—stored mostly above the cluster of bees. Hence if frames of the Langstroth shape are used, they should be on end for the winter. It is best to have a good supply of pollen in the combs. Vigorous queens and plenty of bees bred the latter part of the active season are essential. The colony is to be put into this condition before severe freezing, and not disturbed after that, if the best results are expected, until settled and moderately-warm spring weather has returned.

As the apple-bloom comes in May, stimulative feeding for this harvest may commence in March. At that time the bees will have been breeding for over a month, and gentle stimulation with thin food at night, without permitting any loss of heat, and without manipulation or disturbance, will not induce flying out during unseasonable weather. The stores in the combs being ample, brood-rearing will go on apace, and *apple-blossoms will find the bees ready for the harvest.*

BEE CULTURE IN FRANCE.

In a recent number of *Le Figaro* an interesting account of the thirteenth exhibition of La Société d'Agriculture et d'Insectologie in the Palm House of the Jardin d'Acclimatation in Paris, is given over the signature Guy Tomel. The writer estimates the number of bee masters in France at about 10,000, and these are mostly to be found on La Beauce—a vast tract of prairie lying between Paris and Orleans, where the best wheat raised in France is grown—and in the Gâtinais (Loiret), where as many as 800 hives are held by a single proprietor. It is said that last year a bee master of La Beauce sold the honey he had obtained from his hives for 20,000 francs, not counting the value of the wax. Next in importance are the Bretons and bee-keepers of the Landes near Bordeaux. As for Narbonne honey, strictly speaking, there is now little or none of it to be had collected round Narbonne (Aude), in consequence of the dearth of labiate plants which gave to the old Narbonne honey its character. The best and finest-flavoured honey now comes from Savoy, but the quantity is limited, owing, as the writer says, to the bees having a habit

of only visiting one variety of flower during their day's work, so that if they happen to prefer a flower not very abundant, the number of journeys they make is less the greater the distance these flowers are apart, and, consequently, the smaller the amount of honey they have for their labour.

In La Beauce the variety of flowers is not so great as in Savoy, but the quantity is very large, so that the bees soon collect their 5 decigrammes of honey—the extent of their carrying capacity—and consequently can make nearly treble the number of journeys per day that their equally hard-working but less fortunate relations can in Savoy. Each hive yields from 25 to 30 kilos. of honey, selling at about 1 fr. 30 wholesale per kilogramme, so that at the least 40 fr. is realised, and as the hive itself costs only 15 fr. and 5 fr. for maintenance, the profit to the happy owner is very handsome. The other side to the question lies in the fact that French people do not use honey to the same extent as we do in England as an article of food, but restrict its use almost entirely to medical purposes, looking upon it as a medicine, good enough, at any rate, to use in gargles. The demand is naturally not very great for home consumption, and as for foreign markets the large and increasing quantities of American and Chilian honey now produced have caused the price to drop, so that after carriage has been paid there does not remain much profit for the French producer.

As a remedy for this unsatisfactory state of things, the writer proposes that, as his countrymen and women don't eat honey, it would be now a fitting opportunity to reintroduce the "hydromel," or favourite beverage of their ancestors, who used to drink it out of golden cups or the skulls of their enemies, though he does not insist upon the latter alternative. Therefore, during the exhibition, it is intended to serve "hydromel" to the fair sex, and so attempt to set a fashion which it is hoped will mean the salvation of apiculture in France.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of August, 1895, was £5,159, and the amount for September, 1895, was £3,578.—*From a return furnished by the Statistical Office, H.M. Customs.*

Bee Show to Come.

October 19.—Lanarkshire B.K.A. annual show of honey and bee appliances (appliances open to all), in Public Hall, Larkhall. Also general meeting of members same day at 5 p.m. Entries close October 12. Schedules from John Stevenson, secretary, Merryton Braes, Larkhall, N.B.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. LANDER (Wadebridge).—*Old Granulated Honey in Comb for Bee-food.*—That portion of combs containing honey (not pollen) may be cut up and put in a vessel for melting by inserting the latter in water heated to 150 or 160 deg. Fahr. The wax can be lifted off when cold, and the honey used as bee-food or otherwise.

A. PEARSON (Rutherglen).—*Comb-foundation Breaking Down.*—The sample of brood-foundation may be beeswax, but it is evidently the product of old combs, and so charged with pollen as to lose all its adhesiveness. It is quite unfitted for bearing the strain required in a bee-hive, and we do not wonder at its breaking down. Referring to the sample of super-foundation we should require as much wax as is contained in a full sheet to test its melting point and give an opinion as to its bearing bees.

C. E. FISHER (Ipswich).—*Preserving Combs.*—A large wood tank, if dry and mouse-proof, would make an excellent receptacle for frames, and if a good supply of naphtha-line is placed under the frames they would be safe from the ravages of the wax moth.

VEGETUS (Thornton Heath).—*Starting Bee-keeping.*—We should not advise starting now, as the season has gone. Wait until next spring. An early start may then be made with an established stock or a good swarm, as preferred.

J. R. (Hawick).—Bee reached us smashed out of all shape—as nearly always happens when sent in envelope and unprotected. Enough, however, remains to enable us to say it is not a queen at all, but a worker-bee.

*** Referring to query 1375 (p. 389), we have received the following:—"If I can be of any assistance to your correspondent "Novice," I should be happy to render my services."—ERNEST HOOPER, *Scard-street, Newport, Mon.*

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

Meeting of the Council held at 105, Jermyn-street, S.W., on Thursday, October 10. Present: — Thos. W. Cowan (chairman), Henry Jonas (vice-chairman), Hon. and Rev. H. Bligh, Major Fair, Messrs. W. H. Brice, W. B. Carr, J. Garratt, W. H. Harris, C. H. Hooper, J. H. New, E. D. Till, and the following *ex-officio* members: — Rev. W. E. Burkitt, J. M. Hooker, and P. Scattergood, junr. Messrs. A. G. Pugh (hon. sec. Notts B.K.A.) and J. Waterfield (hon. sec. Leicester B.K.A.) were also present.

Mr. W. O'B. Glennie (treasurer) wrote regretting his inability to be present.

The minutes of the last meeting of the Council were read and confirmed.

The statement of accounts to September 30 were also read and approved.

Correspondence was read—(1) A request from the Wotton-under-Edge Association regarding affiliation fees; and (2) a suggestion from Mr. E. C. R. White referring to awards at the Royal Show. After some discussion, the first-named was agreed to, and the second referred to the Exhibition Committee to consider and report.

The following new members were elected:—Mr. F. W. L. Sladen, Ripple Court, Dover; Mr. R. Hamlyn Harris, Hambrook, Bristol; Mr. S. Livsey, Ranmoor, Sheffield; Rev. J. King Cummin, Eastbournehill, Midhurst.

This concluded the business of the Council.

CONVERSAZIONE.

The attendance at the concluding quarterly Conversazione for 1895, which began at 6 p.m., was so numerous as to entirely fill the board-room of the R.S.P.C.A. Pressure on our space this week prevents us from giving names of those present, but we may say that beyond many residing within easy distance of town and in closely adjoining counties the attendance list bears the names of bee-keepers from Berks, Hunts, Leicester, Notts, Bucks, Hants, Lincs, Lancashire, and from Yorkshire.

The first business of the evening was the presentation to Mr. John Colam, secretary of the Royal Society for the Prevention of Cruelty to Animals, of a trophy consisting of a large number of sections and bottles of honey, the gift of bee-keepers located in all parts of the kingdom. The trophy, handsomely arranged in pyramidal form on the board-room table, was an object of general admiration. Mr. Colam having taken his seat on the right of the chairman,

Mr. Cowan said he was very pleased to see so large a meeting that evening. It was gratifying on general grounds, but more particularly because of a little "plot" which had to be unfolded. Probably some of those present had noticed in the B.B.J. that an invitation had been issued to all gentlemen who took an interest in bee-keeping and its advancement to contribute a little honey from their apiaries for the purposes of a presentation. Nothing was stated as to the nature of the proceedings nor the name of the recipient; but, as a result of that appeal, the trophy set out on the table was a fairly representative collection of honey from all parts of England, Scotland, and Wales, and was gathered together with the object of making some slight recognition to a gentleman who had rendered them invaluable services spread over a great number of years, and to whom they felt exceedingly grateful. The members of the B.B.K.A. had met in the Board room of the Society for the Prevention of Cruelty to Animals now for fifteen years, and their relations with the Society had always been of a most friendly and pleasant character.

Everything that had been asked on behalf of the Association had been willingly acceded to, and all present could judge for themselves of the splendid accommodation afforded for their meetings (cheers). The Association unfortunately was unable to give a more substantial proof of its gratitude for the Society's assistance, and it was therefore thought that the only way it could show some appreciation of the same was by presenting Mr. Colam with the small offering exhibited on the table, and begging his acceptance of it as a mark of respect from the bee-keepers of this country, as well as a small expression of their thanks for all the Society has done on their behalf, in which tribute he and the council of the B.B.K.A. heartily joined (cheers).

The Hon. and Rev. H. Bligh esteemed it a great privilege that he had been asked, as one of the oldest members of the Association, to add a few words to those of the chairman. In addition to all that Mr. Colam had done for the B.B.K.A., of which he in common with others had enjoyed the benefits, he must also remember the kind way in which that gentleman had extended similar favours to the Middlesex Association, which for several years he (Mr. Bligh) had represented as secretary. He was, therefore, glad of the opportunity, on behalf of himself and the Middlesex Association, of which there were several members present, to specially thank Mr. Colam for his uniform courtesy and kindness towards them (cheers). It had struck him, when looking at the collection of honey displayed on the table, that after all they could hardly claim it as a present from themselves; he ventured to suggest that it was a thank offering from the bees to Mr. Colam in token of their acknowledgment of sympathy and kindness shown towards them and the other members of the animal world.

Mr. Harris heartily supported what had

fallen from the chairman and Mr. Bligh as to the obligations the Associations were under to Mr. Colam. He (the speaker) had had to give a good deal of attention to etymology, and he recognised "colam" as the first person of the future tense of "colo —I cultivate" (laughter); and to judge by his career it would seem that Mr. Colam had adopted the translation of his own name as the object he would set before himself in life—at any rate amongst his multifarious duties he had paid special attention to those who called themselves "*api*culturists" (cheers and laughter). He heartily joined in acknowledging the indebtedness of all bee-keepers to their honoured guest, whose words he hoped after this presentation would be more "honeyed" than ever, and he did not rendered their cause worthy of recognition in the magnificent offering they had kindly presented to him on that occasion. He regarded himself only as a busy bee in the society which he represented, a kindred institution to their own, working for a noble object, and did not claim anything from them, his fellow-workers in the cause of humanity. If thanks were due to any one they were to the committee of the society whom he had the honour to serve, and he was sure the committee would appreciate their kindness. He was glad to say that it would always give them the greatest possible pleasure to help the association by granting the use of the board room for meetings, and in any other way in their power (cheers). While sitting there he had been wondering whether they intended this trophy as a compliment to

HONEY TROPHY PRESENTED TO MR. J. COLAM BY BRITISH BEE-KEEPERS.

doubt that, when Mr. Colam had absorbed all the honey before them, the members of his family, as well as all those who came in contact with him, would find him "the essence of sweetness" (laughter and applause).

Mr. Colam said he really was at a loss to find words which would express, in the first place, his surprise, and secondly, his agreeable satisfaction, that the members of the association had thought any little services he had him from another point of view, for the gift seemed to portend for him longevity beyond reasonable probability, looking at the amount of honey piled up on the table (laughter). At any rate he would now rest assured that the days of sweetness in store for him following that meeting would be considerably prolonged (cheers and laughter). He was not a bee-keeper, but he had a great respect for bees, although, much to his regret, he knew very

little about them. When he looked at the Interpretation Clause of the Statute for the Prevention of Cruelty to Animals he was sorry to say he did not find the bee included there. He did not know why it should not be, for if, like "the poor beetle that we tread upon, it can in corporal sufferance feel a pang as great as when a giant dies," surely it was entitled to some legislative consideration (hear, hear). Nevertheless he could not but feel that the time was distant when legislative protection for them would be an accomplished fact in this country. He remembered the ridicule caused many years ago by the Marquess Townshend, amid great laughter, bringing forward in the House of Lords a bill for the protection of black beetles, and he was afraid any proposal of a similar character for the prevention of cruelty to bees would be met as were the efforts of the great Lord Erskine in 1810, when he rose in the Upper House to claim protection for the lower animals against the barbarous cruelties prevalent at that time. The noble and learned lord was "cockcrowed" and treated with the utmost contumely. The relations between bees and flowers were very close; scientists were now telling the world that flowers were capable of sensation as regards pain and pleasure, as they knew bees were; but he was reminded by the trophy on the table that there was a marked difference between bees and flowers in one respect, for it was evident by this collection of honey that bees did not "waste their sweetness on the desert air," as they were told that flowers often did (cheers and laughter). He felt just a tinge of compunction in receiving this gift, because the question arose in his mind as to whether it was fair that they should steal all the product of the bees' anxiety and labour during a long summer season, and it might be that he should feel himself as *particeps criminis* in receiving stolen property (laughter). But, after all, he was consoled by reflecting that the busy worker, whether bees or humans, worked not only for himself but for the good of others, and that every hard-worker found pleasure even in the act of working, as he himself had always done—and even if bees found that the results of their labours were appropriated by others, he was afraid that happened to most of the bee-keepers also. In conclusion, he would always have great pleasure in rendering any services in his power to the association, with whose excellent objects he was in entire accord (applause).

Mr. Till was anxious to assure Mr. Colam that the welfare of the bees was not being neglected, and that they hoped soon to have an Act of Parliament for the protection of bee-keepers, and for the compulsory examination of diseased hives, which would indirectly tend towards the better treatment of the bees. They had a serious plague existing amongst bees, a contagious disease, which had spread, through ignorance and neglect, and was causing terrible havoc in some districts. The suggestions of the B.B.K.A. had been very favourably received by the Board of Agriculture, and the committee hoped that before long they would be able to announce the passing of a measure which would extend the powers of the Contagious Diseases Animals Act to the protection of bees. With regard to Mr. Colam's compunctions of conscience in taking from the bees all the honey stored by their labours during summer, he had great pleasure in assuring that gentleman that no true bee-keeper ever took from the bees one oz. of honey more than they could spare. There were bee-keepers and keepers of bees—a distinction which, to his mind, represented a considerable difference. A bee-keeper was considerate, and always took care to leave sufficient store in his hives to carry the bees through the winter, or, at any rate, to provide them with food before the winter set in. He wished that a Parliamentary power existed by which those who robbed the bees of their necessary winter provender could be punished (cheers). He heartily concurred with the gentlemen who had spoken, and expressed the pleasure he felt in the presentation of the simple but representative token on the table of the gratitude felt by bee-keepers generally for Mr. Colam's service to their cause.

The Chairman, in answer to Mr. Colam, said that even bee-keepers were unable to say how long honey would keep. There was considerable variation in that respect; but he would tell them of a remarkable instance which had come to his knowledge. Two or three years ago excavations were taking place on the site of an old house at Dresden, when some jars were discovered containing honey in perfectly good condition, which had been deposited there as far back as the fifteenth century! That fact would probably dissipate any misgivings that Mr. Colam might have.

Mr. Colam intimated that he would be glad to watch the progress of the Bill referred to by Mr. Till. He presumed that the proposed statute would be economic in character, but it would nevertheless be impossible to deprive it of a humanitarian aspect.

Mr. Harris thought the association might take credit for having saved the lives of millions of bees.

Mr. Colam said that he should have much pleasure in leaving the trophy on the table until Monday next, when he hoped it would sweeten the committee of the R.S.P.C.A., who would meet on that day (laughter, during which the speaker retired).

The chairman called upon Mr. A. D. Woodley (hon. sec. of the Berks B.K.A.), to read his paper, entitled "A Tour with the Bee-Van."

[Mr. Woodley's paper, together with names of donors to the "Trophy"—of which the "cut" on preceding page is a representation—will appear in our next, along with remainder of proceedings at the conversazione. —EDS.]

DAIRY SHOW AT THE AGRICULTURAL HALL.

The Twentieth Annual Show of the Dairy Farmers' Association was held on the 8th inst. and three following days amid very favourable surroundings, the exhibits in the particular section of the show in which our readers are interested being excellent in quality, and, what is equally gratifying, largely increased in number beyond those of last year. The class for extracted honey was capitally filled, forty-three exhibitors staging 500 jars of very high-class honey among them. When we state that, over and even above the actual money prizes awarded in the five classes, no less than fifty-one exhibits were recognised by the judges, and of these twenty-eight were reserve numbers and v.h.c., it will be understood how keen was the competition, and how far from easy was the labour of judging.

Sections also were an exceedingly good class, with 38 entries against 17 last year. The classes for granulated honey brought 23 exhibits against 17 in 1894, and the quality of the produce staged here was a decided improvement on that of last year.

The classes for Extracted Honey in commercial packages produced seven exhibits in the cwt. class, and ten in that for 28 lb. We were glad to note a decidedly better understanding of the requirements of the schedule by exhibitors, all of whom — save one—apparently were bearing in mind the fact that the class was for "extracted honey," and not one for a "commercial package," took pains to so pack their exhibits in safe and presentable form. It was matter for regret to see the exhibit referred to above disqualified, but it was a plain case of "non-conformity" with the schedule. Our space is so much taken up this week with "Dairy Show" matter that this report must necessarily be brief, further comment, if needed, being deferred till our next issue.

Messrs. W. Broughton Carr and J. M. Hooker officiated as judges and made the following awards :—

Twelve 1-lb. Jars Extracted Honey.—(43 entries).—1st, R. Brown, Somersham, Hunts ; 2nd, R. Godson, Tothill, Alford, Lincs. ; 3rd, Wm. Woodley, Beedon, Newbury, Berks ; 4th, W. H. Woods, Hemingford Grey, St. Ives ; reserve number, Rev. W. E. Burkitt, Hungerford ; v.h.c, E. C. R. White, Salisbury ; E. D. Till, Eynsford, Kent; L. Inwood, Uffington, Berks ; John Palmer, Ludlow, Salop ; O. Roberts, Tarporley ; H. W. Seymour, Henley-on-Thames ; E. E. Smith, Southfleet, Kent ; S. E. Agricultural College, Wye, Kent ; and J. Blyth Clark, Braughing, Herts ; h.c., Rev. T. J. Evans, Hargrave Vicarage, Chester ; Jas. Gardiner, Margam, Glam. ; R. J. Bradshaw, Eynsford ; W. Dixon, Leeds ; S. Cartwright, Salop ; Miss Ethel Cheston, Waltham ; Jesse Garratt, Meopham, Kent, and John Carver, Wellington, Salop ; c., G. Catley, Goxhill, Lincs., and T. Colyer, Good Easter.

Twelve 1-lb. Sections (38 entries). — 1st, Wm. Woodley ; 2nd, Jabes Sopp, Wallingford, Berks ; 3rd, J. W. Painter & Co., Chalk House-green Farm, Berks ; 4th, W. H. Woods ; reserve number, H. Rowell, Hook, Winchfield ; v.h.c., L. Inwood, H. W. Seymour, Wm. Woodley, W. Debnam, Chelmsford, and A. Hounsom, Bosham ; h.c., E. C. R. White, R. Brown, John Palmer, and J. T. Brickwell, Otley, Yorks ; c., T. B. Blow, Welwyn, and T. Giles, Salisbury.

Twelve 1-lb. Jars Granulated Honey (23 entries).—1st, H. O. Smith, Louth, Lincs ; 2nd, W. Parkinson, Groby, Leicester ; 3rd, H. W. Seymour ; reserve number, A. Sharp, Brampton, Hunts ; v.h.c., H. W. Seymour, Dr. H. W. Arbuckle, Thorne, Doncaster, E. E. Smith, and W. H. Woods ; h.c., W. Debnam, H. Merryweather, jun., Southwell, Notts, Jabes Sopp, H. Wood, Lichfield ; c., Lieut. H. C. Hawker, Longparish, Hants.

Extracted Honey, not less than 1 cwt. in 7, 14, or 28 lb. commercial packages (seven entries).—1st, R. Godson ; 2nd, R. Brown. (Third prize not awarded owing to there being less than nine entries.) Reserve number, W. H. Wood ; v.h.c., E. C. R. White ; h.c., Lieutenant H. C. Hawker ; commended, C. T. Overton, Crawley.

Extracted Honey (not less than 28 lb. in similar packages to previous class).—1st, H. W. Seymour ; 2nd, W. H. Woods ; 3rd, E. Drinqubier, Dover ; reserve number, Wm. Woodley ; v.h.c., E. C. R. White, and E. D. Till ; h.c., Lieut. H. C. Hawker.

ROXBURGHSHIRE B.K.A.

ANNUAL SHOW.

The annual exhibition of the R.B.K.A. was held in the Corn Exchange, Jedburgh, on September 28. The honey harvest has been fairly good. Clover honey has been collected in considerable quantity. Heather honey, however, has in many places been very scarce, and this district seems to have been exceptionally favoured in a comparatively good return from the heather. One of the features of the show consequently was the large quantity of good heather honey of very fine quality, exhibiting the peculiarities which make this product specially attractive. There was also quite a large display of clover honey, and generally speaking the quality was fine. Equally attractive were the jars of extracted and granulated honey, of which there was an extensive array. The judges were :—Mr. J. S. Dudgeon and Mr. Richard Cairns ; their awards being as follows :—

Collection of Honey (*not exceeding* 100 *lb.*) —1st, Thomas Clark, Pleasants ; 2nd, James Whellans, Camptown.

Collection of Appliances. — 1st, Thomas Clark.

Twelve 1-*lb. Sections.*—1st, Alex. Anderson, Minto; 2nd, Harry Wood, Lichfield.

Twelve 1-*lb. Sections* (*Heather Honey*).—1st, Thos. Clark; 2nd, Nichol Dodds, Melrose.

Design in Honeycomb (*County only*).—1st, Dr. Fyfe, Jedburgh.

Hive made by Exhibitor.—1st and 2nd John Cranston, Jedburgh.

Six 1-*lb. Jars Granulated Honey.*—1st, George Wilson, Kelso; 2nd, James Whellans.

Beeswax.—1st, Alex. Anderson, 2nd, Harry Wood.

Six 1-*lb. Sections.*—1st, H. Wood; 2nd, A. Anderson; c., Thos. Clark.

Six 1-*lb. Sections* (*Heather Honey*).—1st, Adam Oliver, Jedburgh; 2nd, Thos. Clark; 3rd, George Ormiston, Knowesouth.

Five 1-*lb. Sections.*—1st, A. Anderson; v.h.c., Thomas Mabon, Jedburgh; c., George Ormiston.

Five 1-*lb. Sections* (*Heather Honey*).—1st, Geo. Ormiston; c., A. Anderson.

Bar-Frame of Honey.—1st, Thos. Ellis, Jedburgh; 2nd, Robt. Miller, Jedburgh.

Single 1-*lb. Section.* — 1st, A. Hamer, Llanarthney, S.W.; 2nd, George Ormiston.

Super (*Non-sectional, any weight*).—1st, Jas. Wyllie, Newbigging; 2nd, A. Anderson.

Super (*7 to 10 lb.*).—1st, Thos. Clark; 2nd, Jas. Whellans.

Super of Heather Honey (*7 to 10 lb.*).—1st, Thos. Mabon; 2nd, Jas. Whellans; c., Wm. Swanston, Castlegate.

Super not under 10 lb.—1st, Alex. Scott, Jedburgh.

Glass Super.—1st, Dr. Fyfe.

Six-lb. Extracted Honey.—1st, James Whellan; 2nd, James Kerr, Camptown.

Six 1-*lb. Jars Extracted Honey.*—1st, Adam Oliver; 2nd, H. Wood.

Six 1-*lb. Jars Heather Honey.*—1st, James Kerr, Williescrook; h.c., John Scott, Langholm.

Six 1-*lb. Extracted Honey.*—1st, James Whellans; 2nd, Thos. Clark.

Beeswax.—1st, George Ormiston; 2nd, A. Anderson.

Wasp Byke.—Robt. Sinton, Bonjedward.

The super of honey which had been claimed by the society fell by lot to Mr. A. Forrest, and the observatory hive (presented by Dr. Fyfe) to Mr. Fairbairn, Crailing.—(*Communicated*).

ESSEX BEE-KEEPERS' ASSOCIATION.

The committee of this association, who were compelled last year, owing to want of funds, to forego the autumn show of honey which had been held for a good many years previously, have decided, if the public will support them by contributing to a special prize fund, to hold an autumn show this year. The interest taken by cottagers and bee-keepers throughout the county in this exhibition leads the committee to hope that their efforts will be heartily seconded. On former occasions cottagers have driven about thirty miles to bring in their exhibits, notwithstanding long, dark return journeys they were compelled to make on a dark November night. This year honey is so plentiful that it was felt it would be a pity not to hold a show. The Chelmsford and Essex Horticultural Society have consented to its being held in connection with their exhibition in November.

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on 10th inst., present Dr. Traill in the chair, Mr. Read, Mr. Govan, Captain Millner, and Mr. Chenevix. It was decided to hold a conversational meeting of members at Trinity College, on Wednesday, November 6, at 7.30 p.m. Arrangements were made for enabling members to insert, at a low rate, in the "Notes and Hints" circular, advertisements (other than trade advertisements) relating to the purchase, sale, and exchange of bees and bee appliances. Particulars will be found in the number shortly to be issued, and advertisements received for subsequent numbers. It was reported that at the Dublin depot there has been lately a good demand for high-class sections at 9d.

AN URGENT APPEAL.

TO OUR LADY BEE-KEEPERS.

A correspondent — whose generous and public-spirited support of all that tends to the good of the bee industry is well known— writes us as follows :—

"The circumstance of the Lady Mayoress on the occasion of her visit to the honey section and B.B.K.A. annexe at the dairy show last Thursday, expressing herself willing to accept a representative sample of British honey, furnishes a favourable opportunity for again bringing to prominent notice at the Mansion House the importance of cultivating the taste and the demand for native honey and honey products.

"I am anxious this opportunity should not be lost, and would suggest that the collection be presented by a committee of lady bee-keepers. It will show that ladies can profitably occupy themselves in apiculture, and correct the erroneous and general impression that men have the monopoly of bee-keeping. Lady Renals, in her public capacity, will appreciate the object.

"I hope, therefore, some skilled apiarists such as Miss Eyton, Miss Lawrence, Miss Gayton, and a few others, will favour the project, and communicate with you at once. As the present Lord Mayor goes out of office November 9, there is not a moment to be lost.

"I beg, as a favour, that those bee-keepers in the various counties of the kingdom who sympathise with my object will send immediately to the B.J. office either a pound section or a pound jar of prime honey, or more if they

wish. Sections will only travel safely specially packed in a case within a case, and the inner one surrounded by straw. Each packet must bear sender's name and address.

"May I hope that the project will receive full support from yourselves as Editors, and that the wide influence of the BEE JOURNAL will be used in carrying it out?

"P.S.—I would also earnestly request that representatives of the Press will not use this information until the arrangements are matured, of which they will receive due notice in a few days."

We need hardly assure our esteemed correspondent that any proposal tending to the advantage of bee-keeping and the good of bee-keepers will at all times command all the support that this journal can give. We would, however, suggest that the project advocated be confined to "the ladies," in so far as asking for contributions of honey from lady bee-keepers, or from the wives or daughters of bee-men. It is rather a misfortune that the time is so short, but this fact adds force to our correspondent's remark—"not a moment is to be lost," and if the response is anything like that recorded in another page, it will be a gratifying result of a well-meant effort for benefiting "the cause."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

THE DAIRY SHOW.

PROPOSED EXTENSION OF PRIZE LIST FOR 1896.

[2229.] Referring to the above show, what I hope some day to see regarded as the big "Annual Honey Fair" for 1895, is now a thing of the past, and those who were unable or who neglected to take the opportunity of visiting it, and making themselves acquainted with the facilities it affords for selling a large amount of honey, are out of "the swim" as regards disposal of bee-produce. During the time the show lasted, at least whenever it was my "turn" to be present, we were in an atmosphere of "sold again and got the money!" The reunion of old friends, and the making of new ones, are also things not to be forgotten, while participation in the hearty good-fellowship pervading the bee-men present was worth much beyond what it cost. To my mind, the Dairy Show should be only the great Honey Fair of the year, but the annual gathering ground of British bee-keepers. The "show week" possesses obvious and special advantages in this respect; the season of bee-work has closed; the harvest is gathered in; and most of us are—or should be—glad of a few days' relaxation. This being so, what better thing can we do than unite pleasure with business, send our honey to the show, follow it to town, and hope to see it staged with an "award" card attached? But, with or without this latter desideratum, we can sell our produce, if good, and as cheap excursions to "Town" run from all parts during the week the cost of a trip is not great. Then comes the opportunity of being present at the closing conversazione for the year of the B.B.K.A., which is arranged to be held during the show week, and what an enjoyable meeting was the one held on Thursday last! The memory of the oldest will hardly recall a pleasanter evening than that of the 10th inst. The spirit of all-round geniality was to me simply delightful. The pyramid of honey looked altogether "fine," representing, as some one said, "a sweet tribute of the busy bee" in honour of the occasion. Well, Messrs. Editors, while *your* "plot" was being hatched out so successfully, "yet another" was being concocted among a few of us which took somewhat this form:—Deeming it desirable to find a means of increasing the sale of honeys—which, though of good quality, could not be called first class, and also of honey other than that, suitable for table purposes—transacted at the show, that first-class honey could be easily sold at good prices, it was, after full inquiry, agreed *nem. con.* that as no "extra prizes" were available, and that the sum now voted must go to classes for honey only, while the B.B.K.A. could not, owing to lack of funds, endow additional classes for mead, honey-vinegars, wax, honey-confections, &c., it was for bee-keepers themselves to take the matter in hand, and it was considered that no better way could be decided upon than to ask the helpers of our craft to cast still more "bread upon the waters" by assisting the "plotters" to raise a fund for the purposes indicated. The few of us present agreed to subscribe annually a small sum to form the nucleus of a fund for offering prizes for classes as are above referred to.

The matter is urgent seeing that the secretary of the Dairy Farmers' Association, when approached on the subject, said:—"If anything is to be done for next year's show it must be done now." It, therefore, is a case of "now or never," and in consequence those willing to assist should send in their names, addressed "Additional Classes Fund," BEE JOURNAL Office, 17, King William-street, W.C., stating the amount they are willing to contribute. The object is one entirely for the general benefit of bee-keepers and bee-keeping.

Having this object in view, a few of us availed ourselves of an opportunity for discussing the matter during the show week, and

the absolute necessity for taking immediate and active steps was plainly manifest to those present. I, therefore, on behalf of my fellow "conspirators" and myself, pen these lines, hoping that good may accrue therefrom.—H. W. BRICE, *Thornton Heath, October* 12.

[It is hardly necessary for us to add that the project mooted in the above communication has our full approval, and we wish it all success.—EDS.]

"ON" THE DAIRY SHOW.

[2230.] After a week at the Dairy Show, "working like a horse"—I might perhaps use the name of another useful quadruped for the comparison—I gladly sit down to record my impressions of the show while they are fresh in memory. Though the entries were half as many again as last year, they are inadequate to such an important occasion. There are two causes for this—lack of public spirit among bee-keepers and too few prizes. Nevertheless, the honey section this year has been a grand success, and the honey of superb quality, well repaying the B.B.K.A. for the hard work it has thrown upon several of the council.

The exhibits came from twenty-one English counties, one Welsh, one Irish, 0 Scotch. The following is an analysis by counties :—

ANALYSIS OF ENTRIES AND PRIZES BY COUNTIES.

	Entries.	Prizes.
Kent	15 ...	1
Berks	14 ...	4
Hunts	9 ...	5
Sussex	9 ...	0
Oxon	9 ...	2
Wilts	8 ...	0
Herts	8 ...	0
Hants	8 ...	0
Shropshire	8 ...	0
Essex	6 ...	0
Middlesex	5 ...	0
Lincs	4 ...	3
Yorks	3 ...	0
Staffs	3 ...	0
Hereford	2 ...	0
Leicester	2 ...	1
Cheshire	2 ...	0
Bucks	1 ...	0
Derby	1 ...	0
Northampton	1 ...	0
Notts	1 ...	0
Ireland (Tipperary) ...	1 ...	0
Wales (Glamorgan) ...	1 ...	0
Scotland	0 ...	0
Number of counties 23	121 ...	16

Many exhibits were sold—all might have been had exhibitors been more reasonable. One buyer bid 1s. per section all round, if he could have all that were exhibited ; this was, of course, impracticable. We counted twenty-three entries unsold, for which reasonable prices were offered, but exhibitors' notions were too high, and in other instances no sale instructions had been given. On the other hand, one buyer cleared sixteen of the lots, purchasing besides *half a ton* from a cottager exhibitor! The maximum price in every case ought to be entered on the show card, and a note inviting bids if limit be above buyers' notions. This would save a vast amount of time and trouble. Waiting one's turn for this information at the sale office is very inconvenient indeed. Many sections of honey broke down in transit, occasioning loss and disappointment to exhibitors. Sections require exquisite care in packing to guard against the effect of concussion. No end of honey samples were purchased at the B.B.K.A. annexe. Both Mr. J. S. Greenhill and Mr. C. Overton had stands adjacent ; both did good business ; the latter exhibited three frames of live bees. Mr. J. M. Hooker's fine observatory hive was a continual source of interest to visitors. Artificial draught was applied by a candle within a glass chimney, and a small thermometer showed the inside temperature. We are much indebted to the Baroness Burdett-Coutts, our president, for sending her manager from Holly Lodge with plants and cut flowers for decoration. This made the honey section (as the *Times* described it) "most attractive."

On Thursday the Lady Mayoress visited the Hall, and accepted our invitation to inspect the honey. She seemed greatly interested, and was shown the queen and Mr. Brice's exhibits, illustrating artificial rearing of queens. We explained to her ladyship how greatly it would assist future shows if a Lord Mayor's prize, and also prizes from the Grocers' and Apothecaries' Companies, were offered. We believe her ladyship made an indelible note of this.

The experience gained last week leads me to think we should have in future—

A comprehensive schedule, with far more classes and prize money, and a B.B.K.A. medal.

Separate classes for Scotch honey.

Separate classes for honeys of distinct character, such as that from heather.

Classes for mead, honey vinegar, honey confections, wax, and appliances.

County specials, if we can get them, from county noblemen or gentlemen.

Commercial packages from ½ lb. glasses and tins, and this class judged wholly irrespective of honey.

If spared for another show, I hope to see the hall entirely lit by electricity. Gas makes the atmosphere poisonous, especially in the evening. There should be means of laying the clouds of dust, which entirely mar the fine effect of the exhibits.

We had a most painstaking B.D.F.A. steward, but a skilled bee-keeper is most desirable. Other departments of the Dairy Show have men thoroughly conversant with the industry they represent.

Several lots of honey were stolen, showing that watchmen are careless. Exhibitors should insist on compensation.

In these details Mr. Young, the B.D.F.A. secretary, is sure to aid all he can. We owe our best thanks to Messrs. New, Brice, Hooker, Shepherd, H. Brice, jun., Jack, Elvey Smith, Brown, Greenhill, Overton, and many others for assisting us so much throughout the show. —E. D. TILL, B.B.K.A. Steward.

CAN BEES DISTINGUISH BETWEEN DRONE AND WORKER EGGS?

[2231.] From recent correspondence, I suppose we can accept it as a fact that "bees *do* carry eggs." In Mr. Brice's "Jottings" (2151, p. 333) we read: "Drones are smaller, owing to their being raised in worker cells." This suggests the question, have bees power to discern between drone and worker eggs? If not, I should like to ask your correspondent, have they been known to carry drone eggs into a queen-cell, and attempt to raise a queen from it? If bees can discern the difference between drone and worker eggs, I ask, where the combs in brood-nest consist entirely of worker-cells, and there are drone-cells only in super, have bees been known to carry eggs through excluder into drone-cells, and so defeat our modern hive arrangements?—A WORKER, *Long Eaton, October* 7.

MEDICATING BEE-CANDY.

[2232.] In the recipe for making medicated candy, as given in the "Guide Book," we are instructed to dissolve the naphthol-beta in spirit, and add it to the candy just as taken from the fire, and "while still hot." I should be much obliged if you would give me the reason of this, as I have always observed the following to occur when the instructions are carried out:—First, the spirit is at once driven off, and immediately afterwards a pungent cloud of vapour arises, which I presume to be naphthol-beta, either volatilised or decomposed. Have I erred in adding the solution of naphthol-beta to the molten sugar while the latter was too hot?

I saw a strange sight yesterday (October 8) near here—viz., a cluster of bees on their combs, which latter were built in the open air beneath, and attached to the floor-board of a frame-hive.

They were first seen about three weeks ago, and were then thought to be "overflow" from the hive which contained a strong colony.

The hive is on short legs, and the combs do not extend to the front or back, but are about the middle. There are four or five combs about 1 ft. in length, and 6 in. or 8 in. deep, the outer ones being empty, and there is no protection for them whatever except a hedge a yard or two behind the hive. All the combs except the outside ones were well covered with bees, and the latter were alive. I came to the conclusion that they were a swarm or cast, and probably had a queen with them—else, had they been simply crowded out from the frame-hive during the hot weather, surely they would have gone back again on the advent of cold weather and frosty nights?

P.S.—I am desirous of getting some nucleus hives for queen-rearing, but do not see such in the makers' catalogue. I should be glad of any information on the subject as to style, and the most useful number of frames that each should be made to hold.—PERCY SHARP, *Brant Broughton October* 9.

[1. The solution of naphthol-beta is added to the candy "while still hot," in order to prevent its recrystalising. If it volatilises as stated, probably your syrup is too hot, as only the spirit should be driven off. 2. Any of our advertisers who are appliance-makers will supply you with a good nucleus-hive at a small cost. They are staged at every show of bee-goods, and good ones are to be had of any maker.—EDS.]

AN ESSAY ON "TASTE."

[2233.] Æsthetic in my views and prone to the use of the pallet, my present remarks are connected with "taste" of another kind, and in relation to another sort of palate. That "tastes differ" all will allow.

In the *Times* of the 10th inst. the honey prizes at the Dairy Show are classified by counties, thus:—

5	to	Hunts out of	9	entries.
4	,,	Berks ,,	14	,,
3	,,	Lincoln ,,	4	,,
2	,,	Oxon ,,	9	,,
1	,,	Leicester ,,	2	,,
1	,,	Kent ,,	15	,,

Total 16

Kent standing first for entries and last in prizes.

This looks like a "climb-down" for Kent, but when Kent had her meadows brown and burnt up, the bees of Hunts were revelling in nothing but wide expanses of luxuriant white clover. This circumstance is reflected in the above table. Our honey judges have a most difficult task, and are certainly, like the Chevalier Bayard, *sans peur et sans reproche.* Hunts honey seems to have taken the cake before all comers. I don't for one instant question the decisions, but desire to ask whether we ought not to frame our schedules more comprehensively, so that honeys totally different in character, in colour, consistency, and flavour may not be put in competition with each other. In poultry shows it is always unsatisfactory to compete in the "any other variety" class. If Sandy were to come south to judge honey, what reversals we should witness! Scotch bee-keepers worship heather, not clover, sainfoin fruit, or lime. Separate

classes for honeys of distinct character are a necessity. It is very unfair to the judges to have such a paucity of classes—flavour, consistency, and condition are all taken into account. Colour takes a subsidiary place. But it is impossible to ignore the fact that every man, and therefore every judge, has his own particular standard of excellence, his "beau ideal" of flavour, consistency, and colour. *Chacun à son goût* is an old proverb. Sometimes it has been written, *Chaque ane a son goût*, probably by some cynical bee-keeper unsuccessful at a honey show. Will some one tell me which of the two is the proper reading? I hope I shan't be "sent to Coventry" for—CONTEMPT OF COURT.

RAPID FEEDERS.

[2234.] Referring to Mr. W. B. Webster's notes in September *Record* on Rapid Feeders, and to those by other correspondents in B.B.J. on same subject, we send you a feeder which we find is very much liked by Irish bee-keepers; its only drawback is its being made of tin; but in our own use of it we must say this does not seem to have reduced the temperature. It is perfectly free from the defects mentioned by Mr. Webster, we have never seen one bee drowned, and its great advantage is that it can be filled so easily and without allowing any cold air to get into the brood-nest.—EDMONDSON BROTHERS, *Dublin, Oct.* 9.

[The feeder sent is a well-made circular tin one of a good and useful type. It is, however, an improvement, in our opinion, to have a projecting ring round its lower edge, so that if left on for winter it forms a winter passage above frames.—EDS.]

AMONG THE BEES.

HEATHER HONEY AGAIN!

[2235.] Referring to my letter (2,207, page 387), appearing in B.J. of September 26, upon the subject "Heather Honey: Is there such in the South?" I gave my experience as to the quality of such production from the heather country south of latitude 53°; but in the same letter I informed my readers that I had no experience of those large stretches of moorland which can be found in Devonshire and other parts of the south-west.

As showing the great utility of an interchange of experiences—which experiences can only be gained through the medium of a journal such as this—I received by post a section of heather honey gathered from the west side of Dartmoor. This was forwarded to me by a gentleman who desired information as to how such honey compared with the moorland honey of the north? Upon opening the package the unmistakable aroma of genuine heather honey was very marked. In appearance it quite equalled that of the north, and upon cutting it (and, of course, eating some), I could not but say to the "guid wife," "Well, this *is* the right sort," in which opinion she concurred. Yes, if that section had been sent to me from the "land o'cakes" (and heather), I should have simply thanked the donor for a real treat of that which until now I supposed to be a monopoly of our friends in the far north. The gentleman who, for reasons best known to himself, asked me not to mention his name in the journal, informed me that it was gathered from heather growing at an altitude of 500 ft. above sea level. Well, that's not a very great height, so it cannot be the altitude, and very evidently it is not the latitude which prevents the ling in other southern districts producing the genuine heather honey; therefore it must be—as I ventured to suggest in my letter—the nature of the soil.

I must publicly thank the donor for his kindness in imparting knowledge which perhaps at some future date may be of great service to me, and last, but very far from least, to my readers.—W. B. WEBSTER, *Binfield, Berks.*

HEATHER HONEY.

IS THERE SUCH IN THE SOUTH?

[2236.] To return to a recent correspondence on the above subject, and especially to Mr. Webster's letter (2207, p. 387) in B.J., September 26, it may be that the southern heathlands do not produce the same quality of honey for which the northern heather is famous; but my experience of the heather harvest in Hampshire, just closed, does not bear out Mr. Webster's impressions that honey gathered from heather in the south is distinct in character from that of the north.

To support my view I have ventured to send you a little sample of the honey stored by my stocks in Hampshire from the heather. You will see that it does possess something of the magnificent amber colouring of the northern honey; that it is neither thin, washy, nor smoky; and that it is not altogether devoid of the delicate aroma that is to be expected.

As regards density, the honey is to be found in the combs as hexagonal pellets of well-set jelly, upon which the extractor makes no impression.

The sample sent to you suffers from being expressed from the comb rather roughly by the aid of the domestic potato-masher, failing a proper honey press; and I find it impossible, without spoiling the colour and filling the honey with minute air-bubbles, to strain the particles of wax from it.

Your opinion of the value of this honey crop will be of interest to others beside myself.—J. W. JACOMB HOOD, *Surbiton, October* 12.

[Sample received is an excellent specimen of fine heather honey.—EDS.]

THE HEATHER SEASON.

BEES IN NORTH-WEST DURHAM.

[2237.] The heather season of 1895 ranks as one of the best in the above-named district.

The plant grew well during the summer months, the weather at the time of its setting for flower being so good that the bloom was ready for the bees on August 2. From this date to end of season the weather varied from moderate to excellent.

My own hives (six) yielded an average of 23 lb. per hive of heather honey; two of the six (a straw skep and a late swarmed stock) yielded only 14 lb. and 16 lb. respectively. My brother's hives (four), standing alongside my own, gave a better return, owing, I think, to his having more time to attend to them. He got an average of 36½ lb. per hive. All the above consists of saleable 1-lb. sections, and does not include two frames, 6 lb. each, and 8 lb. of unfinished sections. We had located at our place 106 hives from different parts of the county of Durham, including East Boldon, Sunderland, Swalwall, Shildon, Crook, and Durham City. I think all the above should do well, excepting three late swarms and two queenless stocks, which succumbed early in the season.

The words, "all should do well," may be taken exception to by some of the owners of the before-mentioned hives, owing to their bees not having stored much honey in the surplus chamber. But that is entirely the fault of the bee-keeper himself. Many make the mistake of sending their hives to the moors with too many frames in the brood-chamber. They should remember that the brood-nest is getting less and less as each week of the season goes on, and it seems superfluous to have so many empty frames in the bottom when section honey is desired. It is like courting failure and disappointment. My experience of the last seven or eight years leads me to think that eight-standard frames is the best size for brood-nest during the heather season. I have been asked how would the bees fare for food during a long spell of bad weather if reduced to eight frames? My answer is, "They would live as well on eight as on twelve *empty* frames." With eight frames the bees are crowded into the sections, and if a few cold nights come are not so liable to leave the same.

All weak stocks and late swarms should be kept at home—unless the latter are very strong—as they generally succumb to their stronger neighbours. I noticed in B.J., June 20 (p. 241), a suggestion that the B.B.K.A. issue a pamphlet on the preparation of stocks intended for the heather. To my mind no better work could be undertaken, as there is plenty of room for education in that direction. It would help in making bee-keeping more successful than it has been hitherto. Will not some of our northern craftsmen come forward and shed light on the subject? There are surely some in the north who have mastered the details, and can speak with authority on the subject; or have we to look to our southern bee friends to help us out?

As a member of the association referred to, I say *we* should undertake the work, and prove that the Northumberland and Durham association exists not only in name but in reality.—JOSEPH L. DENT, *Burnhill, Waskerley, October* 9.

[Regarding the suggested action of the Northumberland and Durham B.K.A. in connection with the issue of a pamphlet, we need only refer our correspondent, and those interested, to report of the meeting held in the show ground at Darlington, which appears in our issue of July 18 (page 281), and to add that we are not aware of any action having been taken in the matter by his association.—EDS.]

THE AUTOCRAT OF THE BREAKFAST TABLE.

[2238.] The charming visitor referred to in the *jeu d'esprit* of your correspondent, B. South, cannot be any other than my old acquaintance, B.B.J. He is regularly at my breakfast table every Thursday morning, and from what I have heard he must—like Sir Boyle Roche's bird—possess the faculty of "being in two places at once."—D. T. E.

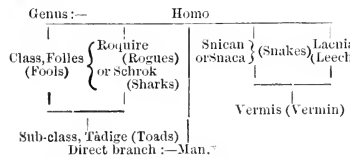
There is one day of all the six
I always call my high-day,
For on that day comes B.B.J.,
'Twixt Wednesday and Friday.
From your own "LAUREATE."

LONGEVITY OF DRONES.

SOME REMARKABLE COINCIDENCES.

[2239.] One of my strangest experiences is that your correspondent T. D. Elliott (p. 404, 2221) should have referred to myself as being possibly able to throw some light on the question he propounds! Pray do not think me egotistical when I say, if there is one subject upon which I claim to be *au fait*, it is this. I suggest, however, that T. D. E., though evidently *very* observant, is here just a trifle off the track; and, as I hope to show, has, by a series of remarkable coincidences, confounded terms and meanings. Every one has not the knowledge of our ancient Saxon lingo which enables one to lucidly trace the whole thing out; and so, in the light of my own special and particular wisdom (already mentioned) I am going to put T. D. E. right. His first error, then, has reference to the name *apis*, to which one class of drones belongs. This has clearly been mixed up with *api* (Icel.), *apa* (Sax.), otherwise *ape*. In this genus, by another queer sequence, we find drones also, but the last mentioned is classified as one of the family of quadranous animals having teeth; manlike, and possessing "no tails or *cheek* pouches." As to confusion of terms, a still further and peculiar instance crops up when we have a collection of these quadrupeds in durance termed an *apery!* The members of which, by

their imitative antics, give rise to the term *apish*. *They* are not honey bees, but, on the contrary, very much "otherwise," if sweetness is part of their economy. But if by the light of our "Darwin" we plunge a little deeper, it may be found that "T. D. E." is not so very far away from the truth after all. Darwin tells us of the "missing link" between animate and apparently inanimate life (another remarkable "one of 'em"), and in his theory of evolution pounced down upon Mr. *Api* as the one essential link necessary to complete the theory. With all this in our minds, and a gentle elongation of one's imagination, the whole question of these particular drones works out as follows :—



* A rare species now, owing to deterioration by absorption into other and inferior classes.

Now a line as to the word drone "derivated." By the light of the original Saxon (another one of 'em) drone, or drönje (Sax.), signifies a sound (mostly unpleasant); but (here's another) this term also indicates what would appear to be a kind of chronic disease applicable to both sexes of the above *genus*. In the direct branch, however, it appears only in the transitory stage while passing from the perfect state into that of the lower order or class. The term by which shall we call this disease is *opprobriousness?*

Yet another :—"T. D. E." is again astray on bisexuality (such cases *do* exist, but are extremely rare). Though claiming to have discovered a new species, your correspondent is, as I have said, wrong.! Our old friend the Saxon was afflicted much in the same way, in what was then known as *wifman neowe*, or *wimman norus* (the "new woman"!). Now, as then, however, I have no doubt this will prove a mere passing freak of Nature. As to *type?* Well, I confess myself puzzled. A little learning, "T. D. E.," is a good thing in a way. Typically, but you have got hold of the wrong (Saxon) word! Don't you mean *tyke* (spelt "C U R")? Or mayhap the printer has blundered.

To conclude, however, your correspondent asks how these drones "can be ejected." I advise him to make no attempt in that direction. Read the first portion of this letter again; provide an "apery"! Give them no chance—either by intercourse or other form of sociality—or opportunity for exercising their enervating influence to the detriment of such of us as have an honourable ambition to earn the dignified title which I have designated the "*direct branch*."

I trust my conclusions are *quite clear*, although not very certain as to this myself. If there is a "muddle" anywhere, please ascribe it to my ancient friends the Saxons, or else say it's another "remarkable coincidence."—H. W. B., *Thornton Heath.*

PROPOSED ASSOCIATION FOR HERTFORDSHIRE.

A number of bee-keepers and others interested in promoting the formation of an association for the county of Herts were present at the Dairy Show on Wednesday, 9th inst., including Miss Gayton, of Hadham; F. W. Silvester, of St. Albans; J. Kelsby, Watford; — Hodges, Kings Langley; E. H. Taylor, Welwyn, all of whom promised their active assistance in promoting the interests of a Herts association in their respective neighbourhoods. A meeting of those present, together with Messrs. J. H. New, E. D. Till, and J. M. Hooker, members of the council, and J. Huckle, secretary of the B.B.K.A., was held at four o'clock, and a unanimous expression of opinion arrived at, "That the formation of an association for the county of Herts was desirable, and that steps should be taken to call a meeting on an early date with the view to form a working committee." Much stress was laid upon the desirability of immediate action being taken, inasmuch as the Bath and West of England Show, to be held at St. Albans next year, presented a favourable opportunity for the reorganisation of Herts bee-keepers and the restoration of the industry of bee-keeping in the county to the prestige it enjoyed only a few years since.

SURREY BEE-KEEPERS' ASSOCIATION.

Referring to the notice of a conference of bee-keepers to be held at Guildford this month, under the auspices of the Surrey County Council, which appeared on page 384 of our issue for September 26 last, we are now informed that the meeting will take place at the Technical Schools, Ward-street, Guildford, on Saturday, the 19th inst., at 3 p.m.

The attendance of all Surrey bee-keepers and of those interested in the movement is invited.

Bee Show to Come.

October 19.—Lanarkshire B.K.A. annual show of honey and bee appliances (appliances open to all), in Public Hall, Larkhall. Also general meeting of members same day at 5 p.m. Entries close October 12. Schedules from John Stevenson, secretary, Merryton Braes, Larkhall, N.B.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

"TRYON" (Liskeard).—*Preventing Swarming.*—1. You do not state what particular system of prevention is referred to when saying:—"I read that swarming can be considerably lessened by putting another body-box beneath brood-chamber, &c." Consequently we cannot advise without knowing what is before us. Please inform us on the point. 2. The "Wells" system may be referred to in a general way in new edition, but nothing beyond this.

CUMBERLAND.—*Wintering Bees in a Two-light Garden-frame.*—If the two frame-hives and skep are well protected from wet and cold our preference would strongly incline to wintering them in the open on their ordinary stands. We see both disadvantages and inconvenience as likely to occur in using a garden-frame for the purpose, if it can be avoided.

B. FIRKIN (Wyrley).—*Moving Bees.*—The only danger in moving hives a quarter mile at this season is the risk of losing bees by their returning to the old stands; and this danger may be minimised by altering the appearance of the hives for a few days after removal.

JUNO (Roseneath).—*Size of Sheets of Foundation.*—1. Foundation—if used unwired—should always be cut so as to hang free of sides and bottom of frames, otherwise it will sag and twist out of shape in use. 2. If sample of suspected comb, with dead brood in cells, be forwarded we will gladly give an opinion on it.

JOHN CRAIG (Northallerton).—*Transferring Bees in October.—Honey Labels.*—1. It would be ruinous to the chance of success next year to transfer bees and combs from skeps to frame-hives at this date. Leave them where they are well-off and safely provided for, and furnish the frame-hives with swarms from them next year. Any of our advertising dealers will send you samples of labels for a few pence if written to.

H. J. BLACKLOCKS (Lydd).—Zinc is, in some degree, certainly harmful in contact with honey, because of the oxide being poisonous; it cannot, however, be very injurious to bees, seeing how often they take syrup through perforated zinc.

FELIX BRIDGETT (Cheadle).—Honey sent is gathered mainly from clover.

We have quite a number of Letters, Queries, &c., in type, which are unavoidably held over till next week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

FOR SALE, 100 lbs. of Fine Extracted HONEY, 8d. per lb. M. HALL, Hutton Rudby. J 69

WANTED. RUBBER BEE-GLOVES, second hand. State price.—W. RABY, Southam, Rugby. J 76

PURE BLACKS. A few Stocks in Straw Skeps to spare. Apply, ALSFORD, "Expert," Blandford.

WANTED, Clean CYLINDER EXTRACTOR, cheap. State particulars. EDWIN TILLER, 28, Beulah-road, Thornton Heath, Surrey. J 72

EXTRACTED HONEY WANTED. Best quality, pale, season 1895. T. SMITH, 17, Cambridge-street, Hyde Park. J 74

EXCHANGE Bees, Appliances, or Honey for strong Safety Bicycle (cushion or solid). DALE, Little Haywood, Stafford. J 73

BEAUTIFUL HONEY, in bottles and in bulk. Sample 3d. THOMAS CHARLES, Caerswall, Much Marcle, Glos. J 71

PLANT NOW, for Bees, LIMNANTHES DOUGLASII. Strong Plants, 120, 1s. CLARK, Boarbank, Grange-over-Sands. J 66

SAXIFRAGAS and other ALPINE PLANTS, very cheap. Also Daffodils. Send for list. SANDS, Harborne, Birmingham. J 67

PURE ITALIAN QUEENS. Sent, carriage paid this month, at 4s. each; 1895 reared. W. B. WEBSTER, Binfield, Berks. J 57

QUEENS, STOCKS, and NUCLEI. Guaranteed healthy. Queen rearing a speciality (8th Season). Rev. C. BRERETON, Pulborough, Sussex. 109

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

LACE PAPER for GLAZING SECTIONS. 100 strips, 22 inches long, 8d., 200, 1s. 3d., 300, 1s. 9d., 400, 2s. 3d., 500, 2s. 9d. Three neat patterns stocked. W. WOODLEY, Beedon, Newbury.

FREEHOLD LAND, 13 acres, 18 acres, 26 acres; well sheltered, £12 per acre; 10 acres, wood, fine covert, £230; 9 acres, £270. LAND, Myrtle-villa, Hornchurch. J 75

WANTED. HONEY, comb or extracted, or appliances, in exchange for handsome Fox in massive glass case. Also large Heron in glass case with corner pillars.—Dr. WALKER, Kirkby-Stephen, Westmorland. J 77

SEVERAL STOCKS of BEES in home-made Standard Hives, quite healthy and splendid honey gatherers, 25s. each; or, in make-shift hives, 15s. each. Can be seen by appointment. Also 9 lbs. Beeswax, 1s. 8d. lb., carriage paid. Rev. REES, Dalton Parsonage, Thirsk. J 70

"HONEY AND ITS USES," by Rev. Gerard W. Bancks, M.A., 3s. 6d. per 100. By distributing this Pamphlet, a ready market for honey may be made in Bee-keepers' own neighbourhood. Specimen copy sent. Also "MEAD, AND HOW TO MAKE IT," post free 2½d. Address, The Green, Dartford. J 78

W. P. MEADOWS,
Syston and Leicester.

SEASON GOODS.

My Patent Extractors, none to equal them. Super-Clearers, best made. Three prize medals. You can't successfully harvest Honey without them. Honey Ripeners and Honey Tins. Every Bee-Keeper must have my new 5s. Ripener. Section and Show Cases, &c. Address all letters "SYSTON," near Leicester.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

CONVERSAZIONE.

Continued from page 413.

Mr. A. D. Woodley, on the invitation of the Chairman, then read the following paper, entitled :—

THE BEE-VAN AND ITS WORK.

The promotion of rational and humane bee-keeping being the chief aim and object of the British Bee-keepers' Association, it may not be uninteresting if I give you a short sketch of what the Berkshire Bee-keepers' Association has been, and is, doing in this particular direction. My object is specially to give the representatives of other county associations who are present to-night the benefit of our experience, and also that we may gain some fresh ideas which will assist in making our efforts in this direction even more successful than they have hitherto been.

Before going into details, however, let me give you a brief history of how we came to take up this part of our work in this particular form. In 1891, like many other county associations, we made an application to our County Council for a grant of money under the technical education scheme for the promotion of bee-keeping. Aided by some little influential pressure, we obtained a grant of £50. No special conditions were laid down as to how we should use this sum ; indeed, probably at that time the various County Councils hardly knew themselves how to use the large sums of money placed in their hands, and were not prepared to lay down stringent rules when making grants. Well, thus aided we undertook and carried out an extensive and detailed expert tour among the bee-keepers of Berkshire, irrespective of their being members of our County Association or not, and collected all the information we could. This has proved of great value to us, for never previously had we been able to say how the bee-keeping industry actually stood. It also enabled us to supply statistics to the deputation from the British Bee-keepers' Association which recently waited upon the President of the Board of Agriculture on the foul-brood question and no doubt it was of service to them. The remainder of the money was spent in giving lectures during the winter months.

In 1892 this programme was repeated, and it is certain that a vast amount of good was done, though, of course, we were unable to point to actual definite results. After two years' experience the Technical Education Committee of the County Council desired to see something tangible for the money voted to us. Now if any of my hearers doubt the value of the work done in return for our grant, I should like them to try a little business dealing with the Berks County Council, and I fancy they will arrive at the conclusion that that particular County Council will have twenty shillings' worth of work for every pound sterling voted.

Early in 1893 it came to our knowledge that the Technical Education Committee contemplated the withdrawal of the grant of £50 for that year ; my committee therefore felt that some special effort must be made to retain it. The reason for this was stated to be that we were not doing sufficiently distinct work ; they imagined that we were simply adding the money to our own association funds, and that we were going on much as before ; so that if the grant was to be retained a fresh line of work must be started. We accordingly put ourselves into communication with Mr. Alfred Watkins, hon. sec. of the Herefordshire B.K.A., who had the previous season run a bee-van on behalf of their County Council. On the strength of his report, and from the information he kindly furnished, we drew up a scheme, and asked for a grant of £100, *i.e.*, £50 towards cost of a bee-van, and £50 for the expense of working it for the season. On April 22 the grant was made, and we then set to work, got our van built, and on June 24 were ready to start for a twenty-five days' cruise "on wheels."

The district selected was that part of the county lying between Reading and Hungerford, bounded on the north by a range of hills, each side of which is well known as a fine bee-keeping district. Having myself a fortnight's holiday, along with a friend we arranged to devote it to "van" work, and made a beginning ; the remainder being done by our expert, Mr. Flood. The country traversed was well calculated to test the qualities of men, horses, and van, but I hope that we got through the work creditably ; and, as some proof of this, the grant of £50 has been made to us each year since. But our difficulties were not yet over, for it was found that at the close of the season the £100 had not sufficed for expenses, and our association was left to face the serious deficit of over £40. An application was, in consequence, made to the County Council to renew the grant of £100 to enable us to clear this off in 1894. This was declined, but a smaller grant of £50 made, the whole of which was to be spent in definite work. An effort was therefore made to overcome this difficulty, and—after a somewhat ineffectual appeal to our members and friends for help—we thought that with only a month's work to do in our own county, there were at least two more months which might be utilised in trying to make the "van" work off our debt.

After due inquiry we ascertained which of the neighbouring counties had made no grant to their Bee-keepers' Association, and only approached these in view of doing some work for them. Our offer having been accepted by

the Surrey County Council, we have for the last two years carried out a tour in that county with the pecuniary result that—along with contributions from funds of the association—we shall begin work in 1896 practically free from debt.

I have dwelt somewhat upon the historical side of the question in order that other county associations may benefit by our experience. We wish particularly to impress the fact upon them that they will have greater chances of success in securing County Council grants by showing a well-defined programme of work to be done outside their ordinary operations.

Our mode of procedure has been as follows: We first submit to the County Council a list of places it is proposed to visit; these having been approved and the grant made, we send to the local clergy, schoolmasters, and all known bee-keepers a circular explaining our object and asking their co-operation in making our visit successful. So hearty has been the response, that in many cases our visit is regarded as an "event" in the villages and neighbourhood. On some occasions considerable trouble has been taken on our behalf. Garden parties have been given, and visitors to these have been invited to see our afternoon demonstrations, the working classes coming to our evening lectures. We endeavour to arrange for setting up the van on the village green, or in some public place, and take care to secure the loan of a stock of bees or the use of an apiary for our afternoon demonstrations.

Our van is equipped with sleeping accommodation and cooking apparatus, making us practically independent of outside help; this is really necessary, as in some of the places visited it would often be next to impossible to get either board or lodgings. We carry with us a lantern and set of slides, together with a collection of bee-appliances of the most approved kinds.

Each day's work is arranged and may be detailed somewhat as follows: Turn out at about 7 a.m., feed the horse and get our own breakfast, then pack things for travelling, and it not seldom happens that we have several neighbouring bee-keepers to call upon and help over some difficulty. This done, we usually start between ten and eleven, and our journey being arranged in stages of about six miles we reach our next stopping place between twelve and one. While dinner is being got ready we have a look round and endeavour to find a few people who take an interest in our work. Usually, however, they find us first, and so, having disposed of our midday meal, preparations are begun for an afternoon demonstration, generally at four o'clock. For this we erect our tent in a suitable spot close by, or in a bee-keeper's garden. Operations begin by showing the visitors how to handle bees both in skeps and in frame-hives. These manipulations and explanations occupy us till tea-time, after which there is a spare hour or two either for visiting bee-keepers or friends, plenty of whom we find ready to welcome us wherever we go. At 7.30 comes the "Talk about Bees," when we invite and answer questions and explain the uses of our collection of appliances; this proves to be a most useful part of our work. At 8.30 the "Lantern Lecture" begins; this generally lasts about three quarters of an hour, and by 9.30 the day's work ends. In this way the whole county of Berks has been practically covered and many places visited which it would be impossible to reach in any other way, besides bringing us into direct contact with the very class we are most anxious to benefit, bringing "Technical Education in Bee-keeping" to the cottage door, and there should be now no excuse in our county for want of knowledge on this subject.

During the last three years something like 200 lectures and demonstrations have been given to audiences averaging nearly 100, so that upwards of 20,000 persons in the county of Berks have had an opportunity of hearing something about modern apiculture. An equal number received instructions from us in the county of Surrey during the last two years, so that it may be safely said that in very few departments of technical education has so much work been done at so little cost.

We distribute literature in the shape of small pamphlets, and also supply a list of flowers sought after by bees. The latter have been issued by Messrs. Sutton & Sons, Reading, and both are given gratis. We also take with us a supply of "Modern Bee-keeping," "Cowan's Guide," and other books. The number of these sold is surprising, and the information thus disseminated must produce very considerable results in the near future.

In conclusion, permit me to offer a word on lecturing. Experience has taught us that, in order to secure the attention of a country audience, the instruction should be as plain and as practical as possible. As a rule, therefore, we leave the anatomy of the bee and such other details to be dealt with in classes, and devote our attention to the advantages of bee-keeping, and to showing plainly and clearly how to achieve success in the pursuit.

One indirect result of the work in the county of Surrey is that there is now a general cry for a revival of the Surrey Beekeepers' Association. The value of an active county association has moreover been so far recognised by the Surrey County Council that steps are being taken in conjunction with our old friend Captain Campbell for putting that association on a satisfactory basis. For this purpose a conference of Surrey bee-keepers will be held at Guildford on Saturday afternoon the 19th inst., at three o'clock, and I trust these efforts will be heartily supported, and that the Surrey Bee-keepers' Association will soon be at work again with all its old vigour. There is no doubt that where a county association has fallen into a dormant

condition the tour of a bee-van would do much to stimulate it into new life and activity.

Our old friend, "Amateur Expert," in the BEE JOURNAL of September 19, referring to the proposed revival of the Herts B.K.A., appears to have taken up the "rest and be thankful" position towards county associations, arguing that there is no need for such organisations in that or any other county. After some years of active experience in association work, I am fully convinced that there is still a vast amount of useful work for county associations to do. I also believe that, where an active association exists, or where it can be brought into renewed life, the county council will show wise economy in using the organisation for the development of that particular industry. We have proved this in our own county, and I feel sure that similar results will follow in the county of Surrey.

Mr. Woodley then distributed a few specimens of pamphlets and papers circulated during the tour, and also some photos taken at different times.

Mr. Till asked Mr. Woodley how the bee-van tour had assisted in obtaining members to the Berks Association. There were always causes at work, such as death and discontent, which brought about a diminution in the members of an association, and it was therefore necessary to be always on the look-out for new supporters.

Mr. Carr also inquired as to the nature of the help given to local bee-keepers during the van tour. If expert help, such as that rendered by county experts, were granted it would have a tendency to injure county associations so far as membership, because if bee-keepers could have County Council assistance free they would hesitate in sending a subscription to county associations. He was under the impression that in Herefordshire there had been a reduction of membership owing to that cause.

Mr. Andrews expressed a wish to know what was the expense of the tour.

Mr. Woodley, in reply, said that the County Council bore all the expense, that being a matter of arrangement with them, and everybody was paid a fair and reasonable wage. He confessed that this new step had not increased the county membership as largely as was anticipated, although there was a slight augmentation of supporters. His outline of the usual day's work proved that there was little time to spare for personal visits to bee-keepers. Their announcement bills stated that the expert was instructed to render help as far as possible on or near the line of route; and this was carried out, more or less, according to the time at disposal. The bee-van has actually been a source of revenue during the last year or two. This year they had been out eleven weeks, and a very satisfactory profit on the tour resulted. The Surrey tour was purely a business transaction between the Berks Association and the Surrey County Council. They received a fixed sum of two guineas per day. The Herefordshire B.K.A., he believed, worked their van only on alternate weeks; but that plan they found did not pay, especially in Surrey, where they were a long distance from home. They started out on May 15, and finished on July 29. The ownership and control of the bee-van remained vested in the Berkshire B.K.A., subject only to their engagement with the Berks County Council, who made a contribution towards the original expense.

Mr. Carr did not doubt that Mr. Woodley would guard against demoralising bee-keepers by giving them the help which they ought to secure through county associations; and Mr. Harris added that, where the van travelled, the people should be told that they could not expect skilled assistance every year, which could only be obtained by joining county associations.

Mr. Woodley replied that he was too much interested in the success of the Berks Association to do anything which would detract therefrom.

In reply to other questions, Mr. Woodley said that the van accessories could be hired at the price paid by the Surrey C.C., viz., two guineas per day; thus, any bee association could secure about twenty-four or twenty-five days' work for £50. Sleeping and cooking accommodation were available inside the van. Referring to the original cost he would say that the Berkshire C.C. had made a grant of £50 towards the price of the van, and £50 towards the expense of working it for the season. This allowance, however, only paid part, the van and equipment costing just over £140; but the whole apparatus now practically belonged to the association.

The Chairman was sure the members would all join with him in thanking Mr. Woodley for his interesting description of the work done in Berkshire. They had, no doubt, read of it in the B.B.J., but a personal interview was always preferable. They would all be pleased to know of the success that attended the tour with the bee-van, and the fact of the van bringing in a profit was quite refreshing. He believed there was no better way of reaching the cottager than by such means. There might be a difficulty in getting them to attend lectures in a room, but the van brought education to their doors.

The thanks of the meeting was voted to Mr. Woodley for his paper.

Mr. Woodley expressed his acknowledgments in suitable terms; after which Mr. Till, referring to the indirect good done by means of shows and bee-van tours, instanced the case of a show held at Tunbridge Wells at a loss to the association, but one beneficial after-result was that a well-known dairyman came to him at the Agricultural Hall, and, after

recalling their meeting at Tunbridge Wells, ordered twenty dozen jars of honey for re-sale. Consequently, he felt that the heavy expenditure had not been in vain, if it were a means of opening up the market to bee-keeping.

Mr. Pugh (Notts), referring to the comparative cost of the bee-van, and the giving of single lectures in isolated places, said there were a lot of incidental expenses in connection with the latter, such as train fares, a lantern operator, and the cost of getting the apparatus from place to place. He thought the sum mentioned by Mr. Woodley (two guineas) was the very least that could be charged.

Mr. Woodley replied that although lectures were sometimes given in the nearest building available, experience showed that the cottagers' presence could be secured better on the village-green than in a building.

Mr. Scattergood exhibited a cheap feeder, made by an ingenious bee-keeper in Derbyshire. It was manufactured out of an old treacle-tin, and had been used with good results. He also referred to a matter which would probably interest those concerned in the spread of education. Being officially connected with the School Board in his own district, he had asked the teachers to introduce bee-keeping in the form of object lessons in the schools. As a result the subject was now taught there, and an observatory hive had been shown the children, which was a capital way of securing their interest. He had also procured sets of cards illustrative of bee-life in some form or other, which on the Kindergarten plan were designed to be filled in with needlework or coloured, and he exhibited some that had been so manipulated by little children under six years of age. Such object lessons were allowed by the Code, and could be taken as part of the ordinary curriculum.

The merits of the swarm-catcher, and self-hiver were freely discussed by Messrs. Till, Scattergood, Brice, Hooker, and Meadows, who were of opinion that there was no invention that would satisfactorily catch a swarm and hive the bees, the two operations having to be done separately.

Mr. Carr said with all respect that Mr. Hole had caught his swarms and hived them by means of his hiver in half-a-dozen instances.

Mr. Howard said it had been part of his ambition to settle the swarm-catching business, but after considerable experience he had come to the conclusion that it was a matter well left alone from a monetary point of view of the school. The speaker then explained a self-hiver, which the swarm could be hived on to the frames direct, an advantage which he had never seen in any other self-hiver.

(The remainder of proceedings will appear next week.)

THE BEE-KEEPERS' "OFFERING."

Referring to the presentation of a "Honey Trophy" to Mr. Colam at the conversazione of the B.B.K.A. last week, we have peculiar pleasure in acknowledging the very cordial and liberal response to the invitation conveyed on page 392 of our issue of the 3rd inst. The result of the "plot"—as divulged in last week's B.J.—will no doubt be eminently satisfactory to the donors whose names appear below. That the bee-keepers' offering was "in kind" rendered it far more valuable in our eyes, and, we believe, in those of the recipient, than if it had taken any other form. In fact, judging by the enjoyable character of the whole proceedings during the progress of the little function at Jermyn-street, and the evident hearty gratification it afforded to the gentleman it was desired to honour, we are safe in saying that those whose good fortune it was to participate therein will refer to our permanent record of the proceedings with a feeling of satisfaction for many years to come.

The following list of donors to the "Trophy" does not include all, as some did not send names:—

R. Auld, W. Bramley, A. Brayshaw, Miss Biggs, C. Burge. W. H. Brenes, R. Brown. Hon. and Rev. H. Bligh, Bradshaw, H. Bates, H. W. Brice, Rev. W. E. Burkitt, T. W. Cowan, A. J. Carter, P. J. D. Collin, F. J. Cribb, W. B. Carr, Harry Clark, C. H. H., A. Fuller, Mrs. Flett, A. G. Fisher, F. C. Gaulton, J. Garratt, F. Gay, J. Hall, Lieut. H. C. Hawker, J. Huckle, G. Hole, L. Inwood. R. Illman, H. Jonas, Phil Jones, Mrs. Kirk Robt. Kerr (Dalry), Mrs. Kipping, H. G. S. Leigh, G. Lyon, H. P. Morris, M. Meadham, W. McNally, J. McInnes, J. H. New, T. Owen, T. Pritchard, W. Petty, Miss Robinson, R. Sillito, L. H. Smith, H. W. Seymour, Sergt. Sutton, P. Scattergood, Junr., Elvey Smith, E. D. Till, J. R. Truss, E. H. Taylor, T. F. L., E. C. R. White, John Walton, W. H. Woods, A. D. Woodley, Mrs. Way, Geo. J. Wright, and G. J. Young.

Death of the Rev. L. L. Langstroth.

Just before going to press the sad news reaches us of the death of the above venerable gentleman, who died suddenly on the 6th inst. of apoplexy, while addressing a large audience at Dayton, Ohio, where he has for some years past resided.

Wherever modern bee-keeping is practised, and the frame-hive is known, the name of Langstroth is known also, and bee-keepers the world over will, we are sure, learn the melancholy news of his passing away with sorrow and sincere regret. Next week we hope to give some details of the life and work of one whom we regard as the benefactor of bee-keepers in all lands.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

"QUI S'EXCUSE, S'ACCUSE."

[2240.] I have received the following letter, which has been addressed to the Editors of the B.B.J. for me by "Amateur Expert," in which he still fails to say "how many (if any?) bee clubs he has started and kept going." The excuse he puts forward for the secretary of the Bishops Stortford B.K.A. is quite sufficient for all purposes. *Qui s'excuse, s'accuse* could never have better illustration. Fancy the secretary of a B.K.A. never reading the B.B.J.! This reveals the importance(?) of the Bishops Stortford B.K.A. with a vengeance!

As to my "personality," I beg to assure "Amateur Expert" that I am no "bogus subscriber" (though possibly a "bogey" to him). A. Prior, however, is *not* my name; it is a *nom-de-plume*, though "*non*"-*de-plume* might be appropriate if I were the *non*entity "Amateur Expert" supposes. However, the letter below must speak for itself.—A. Prior, *October* 17.

Cole Green, Hertford,
October 14, 1895.

Dear Sir,—I replied to some of my numerous critics in the B.B.J., but the editors have not inserted it. The hon. sec. of the Bishops Stortford Association, in common with many thousands of bee-keepers, does *not* read the B.B.J., consequently he has not seen your letter.

I looked on you as a bogus subscriber. If you are bona-fide and will reply to this privately, I have something else to tell you.

I use a *non-de-plume* [*sic*) A.P.], not because I am ashamed nor afraid to sign my name, but because amongst old bee-keepers I am better known by it than I am as,—Yours faithfully, John P. Sambels.

[The publication of the above letter—for which we are free from responsibility—in some degree compels us to add a word regarding it. We, therefore, say that, while Mr. Sambels' gratuitous allusion to the "thousands of bee-keepers who do *not* read the British Bee Journal" may be passed by without remark, we may be excused for observing that the veracity of that gentleman becomes open to question—or shall we say he "made a bad shot"—in pointedly referring to the hon. sec. of the Bishops Stortford B.K.A. Any way, in view of the communication on page 429 of this issue, it becomes fairly clear that, however many bee-keepers may—much to our regret—be non-readers of the B.J., the gentleman referred to by Mr. Sambels is not one of them. We may also add that, so far from the letter mentioned as "not inserted" containing replies to the writer's numerous critics, only one (Sainfoin) was alluded to; the substance of the letter comprised some not very pleasant allusions to the regrettable ill-health of one well-known to our readers, together with personalities which we did not care to publish, and an offer to deliver lectures on bee-keeping without fee or "asking for travelling expenses," provided a suitable room was arranged for. Having said this much, *our* conscience is quite clear in the matter, and we ask that it now be allowed to drop.—Eds.]

HONEY FOR THE LADY MAYORESS.

[2241.] I shall be delighted to send you a small pot of honey for the occasion, if you can allow a gentleman bee-keeper to contribute any. I think the proposal to offer the Lady Mayoress of London a sample of English honey ought to be carried out. There are many skilful lady bee-keepers, and it only wants this fact known to bring a good many more ladies into the field of apiculture. I hope the lady bee-keepers will have an opportunity to introduce the subject of honey adulteration, which, more than anything else, spoils the taste for good honey, and spoils the price, too. Only the other day a chemist showed me some so-called South American honey, beautifully put up, but not, in my opinion, tasting at all like genuine honey. It was very cheap so far as price was concerned; the chemist himself told me he thought it probably adulterated. The fact is, not one person in a thousand knows the flavour of good English honey—very likely the Lady Mayoress herself does not. There ought to be a first-rate pamphlet to instruct and interest on the subject of honey generally, and to show the multifarious uses of honey as a food, a medicine, and a product from which so many excellent and economical preparations can be made.—Well Wisher, *October* 21.

[We do not know of any reason why bee-keepers not blessed with a "better-half" should be refused a place among the donors, although all who have so far promised support are ladies. And we are very pleased to say that several have sent honey to us for the "presentation."—Eds.]

[2242.] The presentation to Lady Renals by lady bee-keepers is in the interest of British bee-keeping. We have to use every legitimate means of bringing native honey into public notice. The Lady Mayoress, in her public capacity, will certainly appreciate our object.

Our President is herself a lady, and probably approves. I would make "no bones" of telling the Lady Mayoress *why* we make the present. In the first place, we want every housewife to put British honey on the breakfast table. We want every housekeeper to give honey vinegar a trial. We want bee-keeping more taken up by ladies. We want Lady Renals to ask "*her*" Lordship for a prize—not necessarily for the dairy show, but for some important metropolitan honey show; and finally we want prizes for honey and honey products from the worshipful City companies, especially the Grocers, Apothecaries, and Fruiterers, because honey is a product connected with each of these trading guilds. Let the samples be good, and let them also be good examples, properly labelled with the plant from which the bees have obtained the nectar—fruit, beans, mustard, clover, heather, sainfoin, raspberry, lime, &c., as the case may be. This will make this representative offering doubly interesting. If possible, let the present be made on November 1, for that was the date of our first present of honey to the Lord Mayor.

Perhaps some bee-keepers make light of the project. They may not see its importance, or are not in the habit of giving away samples of their honey to beget a taste for the native product. Well, to such you do not appeal. There will be plenty of sympathisers without them. It could be done by one, of course, and there need be no appeal at all, but that would deprive the present of its representative character. I do not agree with the man who left his wife at home because taking her with him "halved pleasure and doubled expenses." I contend that participation not only lightens the burden, but doubles the pleasure, and that is why you propose the privilege should be shared. I only wish I were a lady bee-keeper, so as to participate in the function; but in any case I will, if allowed, gladly contribute some honey and sign it—MEMBER OF THE KENT B.K.A.

CAN BEES DISTINGUISH BETWEEN DRONE AND WORKER-EGGS?

[2243.] "A Worker" (2231, p. 418), puts the above question to me; I therefore reply by saying that the evidence is rather to the contrary. I have known bees raise queen-cells round a drone larva when no worker larvæ have been available. Several clear, and distinct cases of bees carrying eggs about in hives have also come under my personal observation, but no instance where drone-eggs have been carried into supers for want of drone-cells in the brood chamber. I have also had cases where bees cut down worker-combs and converted them into drone-cells. Bees will place drone-eggs in worker-cells and a "laying-worker" will deposit eggs in worker and drone cells indiscriminately, sometimes half-a-dozen in one cell, but a fertile queen never makes a mistake of this kind—she evidently knows the difference.—HENRY W. BRICE, *Thornton Heath, Surrey.*

[2244.] I think my late experience will, in a measure, answer the query put by "A Worker" (2231, p. 418), by showing that bees do not appear to be able to tell the difference between drone and worker eggs. One of my made swarms I found contained an unmated queen, and the bees had built on drone brood a fine queen-cell. This they did while the unmated queen was still in the hive. The insect appeared to hatch-out, but, as Mr. H. W. Brice kindly informed me, it would die, and the bees would remove it. Mr. B. also mentions that he had many such cases in his early bee days.

The bees were a long time building the queen-cell, and I was rather taken aback with the result, but I seem to have learnt something.—BADCOCK, *Bexhill, October* 17, 1895.

THE DAIRY SHOW.

EXTENSION OF PRIZE LIST FOR 1896.

[2245.] I entirely agree with Mr. Brice (2229, p. 416) "that the Dairy Show should not only be the great honey fair of the year, but the annual gathering ground of British bee-keepers," and if as great an improvement as was shown between this year's show and last continues, there need be little fear that this will soon be the case. What is wanted to more fully popularise the honey classes is well set forth in Mr. Till's able letter (which follows on page 417)—*i.e.*, "a more comprehensive schedule with far more classes and prize money." If, however, heather honey has a distinct class, there should, I think, not be separate classes for Scotch honey.

What friend Brice terms our "plot" will I hope meet with generous support, in which case there should be little difficulty in getting these additional classes included in the schedules for next year, and if the ladies take the honey-confectionery into their special care, no doubt it will be well to the front. I consider the honey shown was much superior to that of last year, nearly every sample in the large class of extracted honey being what might well be termed "show honey"—in fact, I was pleased to recognise some old acquaintances that I had seen as prize-winners at county shows before.

Had your correspondent, "Contempt of Court" (2233, p. 418), been an observant visitor at bee and honey shows, he would not say "colour takes a subsidiary place." We are all agreed that flavour is the most important factor, but if he had gone carefully round the exhibits at any large show he would find that the high class honeys do not vary so much in flavour as they do in colour, and

that the latter appeals so forcibly to the eye that he may venture to predict that, in nine cases out of ten, the light amber-coloured honey take premier honours. Quite rightly, too, I think, because it has invariably been gathered in virgin combs just in the height of the season, and is not an admixture of good, bad, and indifferent products, as is very often the darker coloured honey.

No doubt Hunts honey has "taken the cake" this year, and if it were desirable and practicable to set up a standard for honey *par excellence*, I fancy some that has been gathered in Hunts and shown this year might be used for the purpose; for, personally, I never saw honey of greater all-round excellence than some shown by Hunts bee-men in 1895. A class for heather honey will enable us to compare such samples as Mr. Webster and Mr. Jacomb-Hood refer to in their letters with the real "native" Scotch article.

Hoping Mr. Till will not have to lament of "lack of public spirit among bee-keepers, or too few prizes at future Dairy Shows."—ARTHUR G. PUGH, *Beeston, Notts, October* 21.

AN ASSOCIATION FOR HERTS.

[2246.] Having seen in the last few numbers of your valuable journal that some venturesome spirits in this county have mooted the question of re-forming the old Herts Association, and also asking for particulars of our local B.K.A., I send you a few lines just to show what we are doing in this outside corner of the county. When I commenced bee-keeping here in 1887 there were a few bee-keepers here (under a dozen), visited annually by the Herts expert, but the county association collapsed in the following year, and we were two years without any assistance. In September, 1889, a meeting was called here, and a president, secretary, auditor, and committee elected, a regular association was formed, and about thirty members were visited in 1890 by an expert, who undertook the office for us.

Receipts for that year were £7. 17s., expenses £4. 19s. Prize money, the gift of the then president, L. D. Wigan, Esq., did not appear in the accounts. In 1891 we increased to thirty-eight members. Receipts £10. 4s. 6d., expenses £9. 15s., including prize money, 10s. 6d.

In 1892 we numbered forty members. Receipts £11. 17s. 6d. Expenses: Expert expenses, two visits, £8. 7s. 6d.; prize money, £2. 9s.; advertisements, &c., £4. 11s. 4d. This left a trifling balance on the wrong side.

During the last two years the number of members has increased to nearly fifty, and, as some live at a long distance, the receipts have not covered the expenses, and, although one member of the committee has kindly conveyed the expert round the district free of charge, we were at the end of last year £6. 9s. 6d. in debt.

In this unsatisfactory condition we commenced the present year, but, thanks to a small grant of £5 from the Herts Technical Education Committee, and by the kindness of one of our members, who collected the prize money for the year, we shall, I hope, be able to clear off the deficiency by the end of the year. Our members always receive two visits annually by the expert.

For the last four years we have had the valuable assistance of Mr. W. C. Child, of Hemel Hempstead, a former expert in the old Herts Association, who has done all in his power to advise and assist members; but I fear, if a county association is formed, he would, like myself, be too busy to undertake office. What I would recommend is, that those who wish to start a county association (and I should be glad to see one) should call a public meeting and make sure of some *cash*, appoint their own officers and committee, and draw up their own rules, leaving the bee-keepers here at liberty to join or not as they think proper. The County Association would then stand on its own footing, and our position as a local effort will not be injured if the county association falls through. I enclose a copy of our rules and the reports and balance-sheets for the last two years.—G. W. SWORDER, Hon. Secretary and Treasurer, Bishop's Stortford B.K.A., *October* 18.

A CURIOUS PARASITE.

[2247.] On May 30 I was removing a piece of board which was leaning against the alighting-board of one of my hives, when I noticed a bee crawling upon it having something the matter with one of its upper wings (see sketch). At first I thought that the wing was malformed, but on closer observation the obstruction turned out to be the pupa-case of some insect. It was firmly attached at one end to the extremity of the wing, and was yellow and semi-transparent, having two small projections at the free end. Fixed to it was a black shrivelled mass, evidently the skin or skins of the larval state that it had thrown off. It was about 1½ mm. in length.

I kept the puparium in a warm place, in the hope that the insect within would hatch out, but having been now in my possession for nearly four months, I conclude that it must have perished. Although I have made careful searches in all my hives, I have not found another specimen. Possibly the parasite may turn up again in the spring. It would be interesting to ascertain if bee-keepers in other parts of the country have observed anything similar.—F. W. L. SLADEN, *Ripple Court, near Dover.*

FOUL BROOD.

[2248.] An incident has recently occurred in my apiary which seems to me so full of instruction in connection with the question of foul brood that I venture to ask your leave to relate and to comment on it.

In looking through our thirteen hives on October 1st (preparing them for winter) we came upon a hive with a frame affected by foul brood. As we had had this disease badly in the apiary not very long ago, I was neither surprised nor alarmed, especially as the hives had not been touched since the end of July. The serious risk of robbery which arises as soon as the honey harvest is over is the explanation of what may seem to some like neglect or inattention.

Now, in the event of the Legislature compelling every one having a hive affected with "Foul Brood" to give notice to the Inspector appointed to his district, what would happen in such a case as mine? I should be obliged at once to send for the inspector; he would, according to the views of some, destroy all the hives! There are thirteen of them, all full of bees and full of honey. What compensation would he give? He would, in any case, examine all the hives, and spend, of course, a day or two about the business, all at the public expense. Who is to pay him? The ratepayers? Are not our rates high enough and to spare already? Is not the history of almost every country district a history of impoverished landlords, ruined farmers, land lying desolate and untilled, and villages depleted more and more of their population? Why add to the burdens which are already too heavy?

But now look at this point. In my large house (with high walls in some parts) there are two or three colonies of bees. These are probably affected with foul brood, as I have had hives for several years affected by the disease. What would the inspector require to be done with these colonies? Remove them? The expense would probably amount to £20, as scaffolding and bricklayers' work would be required. Who is to meet this cost? The ratepayers once more? Let the advocates of legislative interference answer this question.

Your readers will inquire what course was adopted when "foul brood" was discovered. The comb affected was taken out and burnt; some small pieces of naphthaline were put at the bottom of the hive, and the trouble was over. Had the naphthaline been added at the end of the honey harvest, we probably should have found no traces of "foul brood." And I may mention, as an illustration of the little cause for fear which some folks find in this dire disease (as so many consider it), that an eminent bee-master, who has recently been my guest, took away four frames full of honey in order to feed driven bees! I wonder whether he washed them with a proper solution before he put them into his hives?

May I suggest that those who advocate the appointment of "Foul-Brood Inspectors" throughout Great Britain and Ireland should let us know their views on the question of compensation? Should all my apiary, in as good condition as it can well be (most productive and profitable this last year), be destroyed? What compensation should I—what should others—receive, and who is to pay the bill?

Swine fever is sometimes quoted as an illustration of the system which might be adopted with regard to compensation, and also as a precedent for legislative interference. I very much question whether the regulations respecting swine fever afford a good example for us to follow. We have them in force just now in Essex, ruining our markets and reducing the value of our stock 25 to 50 per cent. "All the money spent in two of our largest counties in the administration of the orders of the Board of Agriculture has been absolutely thrown away." Such is the language of "T. H." in the *Agricultural Economist* of this month.

I am quite willing to admit that I have not studied the swine fever question, but I know so much of the disastrous effect of the regulations in force all around me that I strongly object to anything like them with respect to bees and bee-keeping.

Sometimes it is said that, unless the legislature interferes, the bee industry will be destroyed. This statement, to my mind, is a mere bogey, raised to frighten weak minds. Good honey has been selling in the village next to mine at 6d. a lb. A friend of mine, a working tailor, has had a grand harvest of the very best honey, and is glad to sell even at 6d. The columns of the BEE JOURNAL testify from time to time that honey is being produced as plentifully as ever, and that there is almost always good English honey on offer at a moderate price.

Let the B.B.K.A. persevere in the course which they have recently adopted of requiring a thorough knowledge of the disease and its remedies from all candidates for its certificates; let the county associations follow suit in the case of their experts; let us have, ere long, the promised leaflet on "foul brood"; then I am convinced this panic will soon pass over, and we shall not have imposed on our country districts the incubus of State or rate paid inspectors, increasing, of course, in cost and numbers every year, and probably applying remedies which often would be worse than the disease. One point is perfectly clear; we should have to pay a small army of inspectors as well as compensation. Another point not so clear is, whether they would do any good but to themselves. "Foul brood" need occasion no alarm to any man who keeps bees in bar-framed hives, and understands tolerably well how to manage them.—E. BARTRUM, D.D., *Wakes Colne Rectory, Essex, October* 8, 1895.

[The question of foul brood has been so

fully discussed in our columns that we very reluctantly — especially as the points raised have been met and answered fully and authoritatively—publish the above, and only do so lest we should be thought unwilling to allow "light" to be let in on the subject. We must, however, say that our esteemed correspondent's communication throws no new light that we can discover, nor is there any information (that we can see) which is likely to be helpful to those suffering from the pest.

Referring to the removal of combs of honey for feeding purposes mentioned above, if Dr. Bartrum would have readers believe that foul brood is so little to be feared that combs of honey from affected hives may be used with impunity for feeding healthy bees, it would be interesting to know the name of the "eminent bee-master" referred to. For ourselves, we should take leave to question the "*eminence*" of the bee-master who took part in, or even sanctioned, such a proceeding.—EDS.]

JUDGING HONEY BEFORE SHOWING.

[2249.] Might I suggest a notice in the editorial column to the effect that the Editors do not feel free to give an opinion on samples of honey sent to the B.B.J. office, as you may be officiating as a judge at some future show!

Take my case. Such a notice would have saved me some expense and much wasted trouble. I send three samples of my honey, wishing to know which is best for the show. I enclose a stamped and addressed envelope to enable me to receive an early answer, and then wait and wait till the very last moment, when the selection has to be made, the labelling, polishing up, and packing done, all in a great hurry; and in my case the honey that your junior Editor and another distinguished expert consider the best is not sent. Had the refusal of opinion been sent back at once in my envelope I should still have had time to have consulted another expert. Of course, after six years' bee-keeping, I ought to have known which of the three honeys was the best; but I acknowledge that I am a "duffer," hence my wish for guidance from such past-masters in the craft as our esteemed Editors. I trust that you quite understand that I am not falling out with your feeling that a judge is not free to give his opinion more than once on a particular honey (though doesn't that rather preclude his acting at more than one show in the season, and in the case of granulated honey at more than one show in all?); but as a subscriber of some six years to the B.B.J., during which time I have, I think, only troubled you with questions three times, I think it would have been the civil thing to have sent your refusal by return of post, instead of waiting till "the day after the fair."—A DUFFER, *Longparish, Herts.*

[We fear our correspondent rather fails to realise the various aspects with which Editors must regard cases like his own; foremost among which "aspects" is the invidious position in which they are placed with regard to any and everything connected with "showing." If correspondents would give a moment's consideration to our all-round position it should strike them that to invite us to select a honey for show-purposes—from among several sent—is to set our opinion against that of another judge, who, by reason of his having everything before him, is in a better position to form an opinion than we are, but who should, nevertheless, be spared anything like "comparison." Our correspondent will also, we trust, credit us with casting no thought as to whether he had troubled us three or 300 times during the period he has been a reader of the B.J., though if he did but know the amount of wearying pen-work we get through in the endeavour to keep pace with the wants of readers—whom we are glad to number by thousands—he would not be too hard on us for failing to do the "civil thing" referred to earlier. We knew his honey was for showing, where it would be our task to judge it; hence the delay, for which we are sorry. But, so long as show committees honour us by seeking our services in judging, and we can, in fulfilling that not easy task, secure the confidence of exhibitors, we neither feel ourselves free to accept the suggestion of our correspondent for declining the office, nor refuse to help bee-keepers in appraising the comparative value of honey sent to the B.J. for our opinion thereon.—EDS.]

BEE-KEEPING IN HERTS.

THE ADVANTAGES OF AN ASSOCIATION.

[2250.] I read with great pleasure of the interest taken in the question of a Bee Association for Herts, and the prospect of a revival of the old association. The district being so near London, a few remarks about the bee-keeping of Southgate may be of interest.

About two years ago bee-keeping here was in a most flourishing condition, many local gentlemen keeping bees, and one especially encouraging cottagers to keep them by giving hives and swarms gratuitously. A small bee-club was then formed, and once a year a lecture given in connection with the local flower show. An expert was also engaged to visit the hives of the neighbourhood periodically. Soon after, when bee-keeping here was at the height of its prosperity, "foul brood" made its appearance, and rapidly spread. The decline of bee-keeping then began. Many who had hardly begun to taste the pleasure or reap the profit of the pursuit were discouraged, and gave up disappointed. Others, unacquainted with a reliable way of treating the disease, either made but a feeble effort to cure or allowed it to run its course, and, as a natural result, soon found themselves "beeless," and in consequence hardly a half-a-dozen bee-keepers now remain in the

Southgate district. Notwithstanding their misfortunes, however, those who formerly kept bees still take a lively interest in and are always pleased to have a chat about them; but if a new Herts Bee-keepers' Association was formed, with an energetic secretary at its head, and simple lectures given, many of the labouring classes would be induced to keep bees. I think these lectures ought to be simple, and illustrated by only those appliances absolutely necessary for a start, explaining (*inter alia*) when to feed, put on supers, prevent swarms, and the use of frames—standard and shallow—section crates, and perform such practical operations as are needed.

I make these observations with the greatest deference, for, although I have long taken an interest in bees my practical experience with them only dates from last spring, and my result for the year is but a swarm and 10 lb. of honey. This district is, however, not one of the best for honey, the principal sources being limes, orchards, and a little clover. With the help of a book of bee-keeping and especially of the B.B.J., I have managed to steer clear of many of the mistakes common to beginners; but one of the greatest advantages of the Association would be the bringing together of neighbouring bee-keepers, so that by the advising of less experienced brethren, and the mutual relation of bee experiences among the beemen, the chances of success in bee-keeping would be greatly increased.—R. DYMOND, *October* 14, 1895.

A LEGAL QUERY.

REPLY TO "AJAX." (1388 p. 406).

[2251.] The estate referred to being in Chancery there must be some one—either a creditor or relative—who is bringing an action to administer the estate. The solicitors for this person will, no doubt, have inserted an advertisement in the local papers stating that an action for administration has been commenced and calling on creditors of deceased to send in their claims before a date fixed and named. Accounts are then brought before the chief clerk in Chancery, and if passed are paid in due course. If the claim is not allowed the creditor must support it by affidavit. Your correspondent "Beeman" must therefore send in an account of his claim at once to the solicitors for the administration, asking them at the same time to acknowledge the receipt of it. He will then receive a notice informing him whether or not his claim is allowed, as the case may be, and, if the former, it will in due course be paid.—R. DYMOND, *October* 14, 1895.

COMMERCIAL PACKAGES AT THE DAIRY SHOW.

[2252.] Referring to the class for extracted honey in commercial packages at Dairy Show (exhibit 1280, in class 63), I sent off one of the crates by rail from here this week consigned to Walthamstow—owner's risk, for 3d. It weighed 19 lb.! The Eynsford station-master said the open crate was "an excellent contrivance, because the contents could be seen." Consignee advises safe arrival, and says: "The honey came splendidly in your patent crate, which is most admirable. If you don't mind, I am going to send it to my bee-keeping friends in Roxburghshire as an example of good packing." The consignee said further that his Walthamstow station-master declared it "the best package he had ever seen for ensuring safe transmission." Railway men ought to be good judges of packages. Perhaps we can get one to help our judges at the next Dairy Show (?). My bee-keeping friends chaffed me considerably for my "bird-cages." I wish them to know that railway people award them two "Firsts."—E. D. TILL, *Eynsford, October* 19.

DO BEES CARRY EGGS?

[2253.] Our Friend Woodley in his "Notes" (2220, p. 404) gives a good illustration of the old Proverb—

> A man convinced against his will
> Is of the same opinion still.

I am afraid it is no use turning on the "search light" in this case, because I think when Mr. W. gets an idea, his methodical mind must have clear light, full proof, and certain knowledge, before he will move from the position he has taken up. I admire him for this; if more bee-keepers were like him, fewer miserable mistakes and canards would be recorded, to the annoyance of modern bee-men. I am pleased that Mr. W. does not accept the position, in a shut your eyes, open your mouth and take what I give you sort of fashion, but wishes for more light. He must, however, pardon me for turning on the search light to the points raised by him as to the release of the queen, and the fertile worker theory. I have distinctly stated all along that the queen was not set free till I myself released her; she could not therefore slip in or out either "of her own free-will." Then as to a fertile worker, I would ask where did the eggs that produced the worker bees come from if they were not carried into the cells by the bees? To my mind the question is so clear that no search light, however brilliant, could possibly make it clearer, perhaps Mr. W. may have the opportunity next season of testing this interesting fact for himself.—PETER SCATTERGOOD, Jun., *Stapleford, Notts, October* 17, 1895.

SELLING HONEY.

[2254.] I can sympathise with the correspondent of the *Standard*, referred to on p. 402, who has difficulty in selling his 70 lb. of honey, I have before me now a printed circular from my Appliance Maker, wherein he offers the magnificent price of 6*s.* 6*d.* per dozen for 1 lb.

sections, carriage free! I have also in my mind a buyer (an advertiser in B.J.) who tries to compel sellers to pay carriage and give tins in free, and asks for a stamped envelope for reply. He will wrangle on post-cards over a farthing per lb., and, having bought the honey, will ask for "discount for cash." Then, after complaining that "your honey (in my case extracted from sealed combs) is not "ripened properly," will write—"the honey I had from you was very nice, have you any more to offer?" This sort of thing tends to daunt and disappoint a new beginner, or one who is obliged to turn his produce into cash. When I began bee-keeping I had a difficulty in disposing of my 50 or 60 lb. surplus. But now, my honey being always of one uniform quality, I have repeat orders every year. I have already sold over 400 lb. to old customers. One, indeed, has just inquired how much I can supply him with. I must say, however, I can never make the 1s., 10d., or 9d. per lb., sometimes mentioned in your pages. I usually get 6½d. to 7d. (rarely 8d.) and that, too, for finest quality honey. It makes one wonder what the current market prices really are.

Honey Bottles.—We certainly require a useful good-looking bottle, the price with carriage not to exceed 1d. The present screw-cap costs quite 2d. Cans, too, leave something to be desired. The self-opening tin is unsuitable for pouring liquid honey out of, and awkward to cut the honey from in its solid state. I am devising a can with an over-all lid, which will, when slightly warmed, enable the honey to be slipped out in a solid mass. I am, however, somewhat puzzled what sort of a fastener to have on it combining simplicity with safety from pilfering.—APIARIST, *Fairspeir, Ascott, Wychwood, Oxford.*

[While agreeing with our correspondent as to the low prices insisted on by wholesale buyers, we cannot help observing that he follows the same line in dealing with glass honey-jars. We certainly can never hope to get a screw-cap jar at a penny each, while the tie-over costs less than 1d. "carriage free" at present rates.—EDS.]

Queries and Replies.

[1391.] *Combs not Cleaned up.*—I have some nice combs, both in shallow and standard frames, but in consequence of the weather suddenly becoming cold before I had them cleaned up by the bees it is now too late for the purpose, as they are altogether at rest. 1. What shall I do? Is it possible to wash them in water, or to remove the dregs of honey by syringing the combs, or should I give them to the bees early in the spring? 2. If washed, should the combs be left in the open air to dry or be put in a dry room? Thanks very much for your former reply. I like every word you say, and have always much pleasure in reading all the contents of the BEE JOURNAL. —WELSH READER, *Pwllheli, October* 15.

REPLY.—Soak the combs for a short time by hanging the frames in cold water, then syringe well, and by afterwards giving them a few minutes' revolving in the cage of the extractor, they will be dry enough for storing in a warm room before finally packing away for winter.

[1392.] *Late Swarm.*—I noticed in B.J. of September 26 (p. 386) an account of a swarm of bees on September 9. I had a swarm on the 29th of that month. I suspect it came from a hive into which three stocks of driven bees were put about six weeks ago. I have since examined the hive, and find very little brood. Could the swarm have issued from the latter hive of driven bees?—CHARLES HOPKINS, *Hampton Lovett.*

REPLY.—There may have been two queens left alive with the driven lots, and, if so, it would account for their "parting company" in shape of an abnormal swarm.

[1393.] *Transferring from Skeps in October.* —I last week bought a straw skep of bees weighing about 40 lb. Is it too late to transfer them to a frame hive this year? If so, what would you advise me to do with them? I should like to get some of the honey, but don't want to drive and unite the bees to another colony. —JAMES RICHARDS, *Coleshill, Birmingham.*

REPLY.—It is too late now for transferring. The best and more profitable course will be to leave the bees just as they are; protect them well and winter them in the skep. An early swarm should yield more profit than a few pounds of skep honey at this season.

[1394.] *Selecting Bees for Breeding from.*—I requeened a vicious stock this autumn with a Ligurian on September 9, and to-day the young ones are flying. The old bees for the last week remain rubbing their hind legs on the floor-board before flying off, and as your most interesting correspondent, Peter Bois, says, this is a suspicious sign. I am afraid I may have got foul brood from the Italian queen, especially as my other stocks (six) do not practise the rubbing. Is there any information of the advertiser whose name I enclose selling diseased bees? I intended to let my hives swarm naturally, and retain the swarms after catching and killing the old queens, so as to have all young ones crossed with Italians. But, in consequence of the wide divergence of opinion among the "authorities," I am in doubt whether I ought to interfere with the breed; and before doing so I ask:—1. Has this question of the best breed to use been decided by any representative body of bee-keepers? 2. Will there be danger of chilling the brood if I inspect the combs the next warm day we get?—INQUIRER, *Newmarket-on-Fergus, October* 13.

REPLY.—1. No, and before any attempt is

made to reconcile what looks like divergence of opinion we should know the exact circumstances under which such opinions were expressed. 2. If judicious care be exercised, and a warm day chosen, no harm need follow really necessary inspection of brood-combs. It is, however, rather stretching a point to assume that the stock is diseased because of the suspicious sign attributed to our correspondent Mr. Peter Bois, and we advise some further confirmation than the "sign" before supposing that foul-brood is present.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, but those only of personal interest will be answered in this column.

ERRATA.—Referring to names of new members of the B.B.K.A., announced on page 411, the address of the Rev. J. King Cummin should be "Easebourne Vicarage, Midhurst," not Eastbourne-hill, as printed.

J. D. (Wexford).—*Comb Foundation.*—The sample of super foundation is of good quality; probably the season has had much to do with "bees refusing to take kindly to it." Light brood-foundation, similar to that sent, will answer if wired, but it is too thin for use unwired. The wire sent is unnecessarily heavy for the purpose. That known as "No. 30 tinned" should be used.

F. G. KIRKBY (Sheffield).—*Suspected Foul Brood.*—If we are safe in accepting your description, it seems a case of foul brood only developing at the close of the breeding season. The removal of the three affected cells and their contents was, of course, quite right, but it by no means follows that this will do away with the danger. However, nothing—beyond the remedial measures already taken—can be done at this season. The hive must be closely watched in the coming spring, when you might write again and remind us of this communication for reference.

J. GRIFFITH (Garswood).—Bees sent are of the ordinary or native variety; if good workers they are equal to any for honey-gathering purposes.

THOS. A. GOVAN (Saggart, co. Dublin).—*Foul Brood in Ovaries of Queen.*—The dead queen sent has been badly injured (the intestines being ruptured), which plainly accounts for her ceasing to lay. But apart from this, while examining her organs under the microscope, we found bacillus alvei in abundance in the ovaries.

D. M'COLL (Roseneath).—*Suspected Comb.*—A full and careful examination under the microscope failed to reveal any trace of foul brood in comb sent. We do not, however, wonder at your suspicion, in view of the contents of sealed cells.

H. LAUDER (Wadebridge).—*Sending Queens by Post in October.*—Thanks for sending queen, but she was dead when received. Queens sent alone by post at this season will not probably survive an hour after posting.

A. FULLER (Cressing Braintree).—Thanks for honey. It may certainly be classed as a "good saleable honey."

We are again compelled to hold over several letters till next week.

Special Prepaid Advertisements.

Situations, Publications, Bee Plants, &c.—Up to Twelve words, Sixpence; for every additional Three words or under, One Penny.

PURE BLACKS. A few Stocks in Straw Skeps to spare. Apply, ALSFORD, "Expert," Blandford.

EXTRACTED HONEY WANTED. Best quality, pale, season 1895. T. SMITH, 17, Cambridge-street, Hyde Park. J 74

BEAUTIFUL HONEY, in bottles and in bulk. Sample 3d. THOMAS CHARLES, Caerswall, Much Marcle, Glos. J 71

SAXIFRAGAS and other ALPINE PLANTS, very cheap. Also Daffodils. Send for list. SANDS, Harborne, Birmingham. J 67

PURE ITALIAN QUEENS. Sent, carriage paid this month, at 4s. each; 1895 reared. W. B. WEBSTER, Binfield, Berks. J 57

20 YEARS a Speciality—QUEENS, NUCLEI, &c. Most interesting circular on Bees published, free by post. S. SIMMINS, Heathfield, Sussex. 116

FOR SALE, Large OBSERVATORY HIVE, quite new, price 12s. Particulars on application. E. PRATT, Winshill, Burton-on-Trent. J 79

OFFER WANTED for Five Dozen Sections of Clover HONEY. GEO. CROMBIE, Hotham R.S.O., East Yorkshire. J 80

WILL EXCHANGE 21 Two-Shilling Volumes, "Age We Live In," for Heather HONEY, in Sections or Jars. W. ANDERSON, Ards, Caledon, Ireland. J 81

FOR SALE, 5 doz. Glazed 1-lb. SECTIONS, 9s. 6d. per doz.; 5 doz. not glazed, 8s. per doz.; all in excellent condition. WHITE, Woodford, Salisbury. J 84

EXCHANGE, White HOMER PIGEONS for BEES, Honey, or Hives. F. JELLINGS, 28, Bright-street, Stoney Stanton-road, Coventry.

STRAW SUPERS of HONEY WANTED, any quantity. Must be superior quality. Apply, W. SHEPHERD, The Apiary, Oxton, Tadcaster. J 83

LACE PAPER for GLAZING SECTIONS. 100 strips, 22 inches long, 8d., 200, 1s. 3d., 300, 1s. 9d., 400, 2s. 3d., 500, 2s. 9d. Three neat patterns stocked. W. WOODLEY, Beedon, Newbury.

BULBS from the Grower, Largest Yellow CROCUS, White, Purple, each 1s. 6d. 100; 7s. 500; Common, 1s. 100; Blue Scillas, 1s. 6d. 100. 5s. orders carriage free. W. MERCHANT, 2, Maldon-terrace, Foleshill-road, Coventry. J 82

"HONEY AND ITS USES," by Rev. Gerard W. Bancks, M.A., 3s. 6d. per 100. By distributing this Pamphlet, a ready market for honey may be made in Bee-keepers' own neighbourhood. Specimen copy sent. Also "MEAD, AND HOW TO MAKE IT," post free 2½d. Address, The Green, Dartford. J 78

W. P. MEADOWS,
Syston and Leicester.

SEASON GOODS.

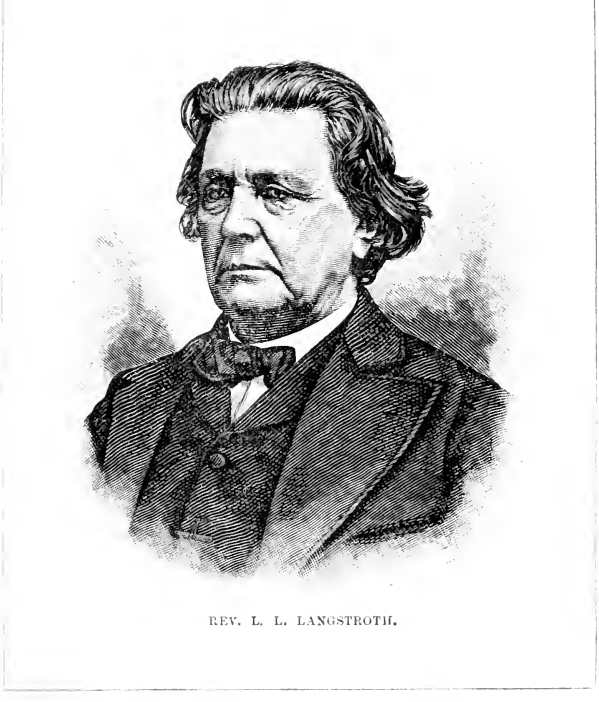
My Patent Extractors, none to equal them. Super-Clearers, best made. Three prize medals. You can't successfully harvest Honey without them. Honey Ripeners and Honey Tins. Every Bee-Keeper must have my new 5s. Ripener. Section and Show Cases, &c. Address all letters "SYSTON," near Leicester.

Editorial, Notices, &c.

REV. L. L. LANGSTROTH.

Last week we had the melancholy duty of announcing the death of this venerable gentleman, who has been rightly designated "The Father of American apiculture. We now give some details of his life and work, together with a portrait taken when in his prime.

Lorenzo Loraine Langstroth was born in the city of Philadelphia on Christmas Day, in the year 1810. The spirit of the day on which he first saw the light, and that of the city of



REV. L. L. LANGSTROTH.

"brotherly love," seems ever to have animated him, for love to others has been the great characteristic of his life. In his early days he took an unusual interest in insect life. His parents were intelligent people, and in comfortable circumstances; but they did not encourage their son's studies in this direction. No books on natural history were ever placed in his hands; but rather, every means taken to discourage his "strange notions." He could not, however, resist the bent of his nature, but persisted in his observations, and devoted to them much of the time spent by his school-mates in sport.

In 1827, at the age of seventeen, he entered Yale College; and graduated four years later. All readers of Langstroth's work on the "Honey Bee" have been charmed by its loftiness of style and the purity of its diction, and it may be safely argued therefrom that the time passed at college was conscientiously and industriously spent. His father's means having failed, he was considered competent to teach in the college in which he had received his education. He was for two years mathematical tutor in the college, and was thus enabled to sustain the expenses of his theological course.

In May, 1836, he was ordained pastor of a Congregational Church, Andover, Massachusetts. Mr. Langstroth devoted himself with all his strength and assiduity to the duties of his lofty calling. In August of the same year he married Miss Anna M. Tucker, of New-

haven, Connecticut, by whom he had one son and two daughters. In his wife he secured a faithful helpmeet. During the severe illnesses to which Mr. Langstroth had been subject, she carried on an extensive and arduous correspondence, and helped him considerably in his bee-keeping experiments, and in the compilation of his great work.

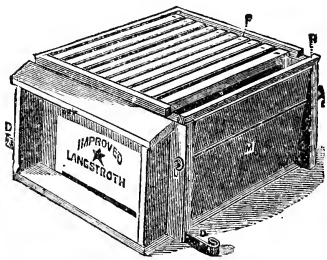
It is singular that, notwithstanding his passionate love for insects in early life, he, during his college life, never took any particular interest in bees, but in 1837 the sight of a glass vessel filled with beautiful comb-honey on the table of a friend led him to inspect the bees of the latter, which were kept in an attic. This sight revived the enthusiasm of his early days, and he could not rest satisfied till he had purchased two colonies in box-hives. His knowledge of bee-keeping was very slight, Virgil and the work of an American author—who doubted the existence of a queen-bee—being at this time his only instructors.

During the year 1839 Mr. Langstroth's health became so impaired that he was obliged to relinquish his clerical duties. He removed to Greenfield, Massachusetts, where he devoted much time and attention to bees. He gradually increased the number of his colonies, and sought for information on all sides. The "Letters" of Huber, and the work of Dr. Bevan on the "Honey Bee" falling into his hands about this time, gave him an introduction to the vast literature of bee-keeping, and he gathered industriously the works of American and foreign authors on the subject.

After leaving his pastorate in Andover, Mr. Langstroth was chosen principal of the Abbott Female Academy, and subsequently became principal of the Greenfield High School for Young Ladies; he was also for five years pastor of the second Congregational church in that place; but failing health again compelled him to resign his pastoral charge.

In 1848 he removed to the place of his birth, Philadelphia, and opened a school for young ladies. Here, with the help of his wife, he began to experiment with hives of different forms, but made no special improvements in them until 1851, when he devised the movable comb-hive (shown in cut), which was used by American bee-keepers in preference to all others. In his Journal, under date of October 30, 1851 (the day on which he devised his movable frame-hive), we find the following remarks:—"The use of these frames will, I am persuaded, give a new impetus to the easy and profitable management of bees."

This hive enabled Mr. Langstroth afterwards to make many observations and incidental discoveries, the most of which are embodied in his work on the natural history of the "Honey Bee." This work was first published at Northampton, Massachusetts, in 1852, and in the preparation of it, he, like Huber, received considerable assistance from his wife. A revised edition was published in 1857, and another in 1859, since which time it has not received any revision, though many copies have since been sold. Thirty years had elapsed since the issue of the last edition, when its revision was placed in the hands of Messrs. Dadant & Son. These gentlemen have ably performed their duty, and its information has been most efficiently brought up to the present time.



THE LANGSTROTH HIVE.

In January, 1852, Mr. Langstroth applied for a patent for his invention, but he was deprived of all the profits arising from it, and the law suits in which he was consequently involved impoverished him considerably, and were a source of much trouble.

In 1858 Mr. Langstroth removed to Oxford, O., where, with his son, he engaged in rearing Italian queens for sale. His apiary was large, and in a single year he sold queens to the value of 2,000 dols. This at the present day may appear a small result, but at that time it was considered something astonishing.

The death of his only son in 1870, and of his wife in 1873, combined with a severe form of head trouble, which often incapacitated him for mental or bodily exertion (one attack having lasted for two years), together with a serious railroad accident, compelled Mr. Langstroth to sell his apiary in 1874; but he was seldom wholly without bees.

Mr. Langstroth was "venerated" by American bee-keepers, who were fully aware of the great benefits they received from his inventions. Whenever able to attend Bee-keepers' Conventions, all present were pleased to see and hear him, and vie with one another how to do him honour. In 1887 he removed to Dayton, Ohio, and made his home with Mrs. H. C. Cowan, his eldest daughter, with whom he resided at the time of his death.

During his periods of convalescence he was entirely engaged in bee-keeping, and wrote frequently to the bee papers. He was welcomed at conventions, and his kindly and intelligent face, broad culture, pleasing manners, and delightful social characteristics, made him a charming companion. During the time of our visit in America, Mr. Langstroth was suffering from his head-trouble, and,

much to our regret, we were, in consequence, unable to see him. Our correspondence, however, was of the pleasantest. So recently as a few weeks ago we had several letters inviting us to attend the convention of the North American Bee-keepers and asking us to try some experiments with malted milk. He had been reading "The Honey Bee," and referring to it, observed, "What I wrote to you about the malted milk meets with confirmation in what you say about chyle-food. Let the mixture be made with hot honey-water—and how near it seems to come to chyle." We regret that this was his last letter to us, and we have since had no opportunity of trying the experiment he referred to. Mr. Langstroth attended the Convention of Bee-Keepers at Toronto and was surrounded then by admiring friends. He died of apoplexy while addressing a congregation at Dayton, Ohio; and thus, at the ripe age of 85, he passed away in His Master's service. All bee-keepers will mourn his loss and will join us in extending our heartfelt sympathies to his surviving relatives and our American brethren.

BRITISH BEE-KEEPERS' ASSOCIATION.

CONVERSAZIONE.

Continued from page 426.

The Chairman, Mr. Cowan, after thanking Mr. Scattergood for introducing the subject just discussed, exhibited—within a small box fitted with a glass side, somewhat like an observatory hive—a nest of Australian Bees (*trigona carbonaria*). These bees had been six weeks on the journey from Australia, and arrived here on the first of June. He received a letter from Mr. R. W. Pender, a friend residing on the banks of the Hunter River, stating that he had sent a nest of native bees by the P. & O. Co.'s mail steamer *Australia*, and that some one was to meet it at the docks. As he (the chairman) was leaving for the Continent before the arrival of the steamer, his friend Mr. Hooker kindly undertook to go on board and receive the bees, which he did at the London Dock. The little hive was then passed into the keeping of Mr. Carr, who, a few days afterwards sent him on to Switzerland particulars of the safe arrival of the bees, and enclosing specimens of them, which he had much pleasure in showing at a congress of bee-keepers held soon after, at which he was present.

These bees, as would be seen, were about one-third the size of the common house-fly. They did not, like our hive, cluster to produce heat, but required a certain temperature to live in. Mr. Carr, as they would see, had for some minutes been holding his warm hand on the glass to rouse them into activity by raising the temperature of the inside of their domicile. (The case was then handed round for examination, and the little bees in motion, as well as their work, excited much curiosity and interest.) They were torpid at a temperature of 59 deg. Fahrenheit, but were lively and could fly at 64 deg., while below 50 deg. they would die. They had not been allowed to leave the hive since they had been in this country, but were still very active and lively, and appeared to like the food given them, and which they had stored in their small honey-cups or cells. The habits of these miniature bees are quite different to those of our hives; the combs being built horizontally, one row of cells opening upwards on a horizontal base, while each comb is supported on columns of wax. The first cell constructed is round, on a column of wax, and is built also on a waxen column. Other cells are then attached, and the pressure causes them to assume a hexagonal form. When a certain number of cells are ready, and are consolidated by the columns of wax aforesaid, the bees partially fill them with food, composed of honey and pollen. The mother-bee then deposits the eggs in the cells, which are afterwards sealed over. The cells in which the young bees are reared are not used a second time for the purpose, but cut down to the foundation and constructed afresh. While one storey is hatching, others, built as before, are constructed above, and regularly placed, till the several stories are surrounded by an envelope of wax in plates, and form a labyrinth through which strange insects would find a difficulty in making their way. The bees, however, leave a channel through this labyrinth of plates which conducts to the outside, and here a small hole is provided large enough for one bee to pass out at, the entrance being always guarded by a sentinel. These bees seem also to have adopted the eight-hours movement, for they keep their tiny entrance closed with wax and propolis till about 10 a.m., when outdoor work begins. It is then opened, and carefully sealed up again before sunset. As the different storeys hatch the weight of the upper ones compresses those on the lower one. The upper storey is fixed to the envelope of wax plates, and when the brood in this is entirely hatched the colony seeks a fresh place for a nest, swarms, or perishes.

The honey is not stored in the combs but outside of them in special cells, or more properly pots, constructed for the purpose and resembling in shape a bird's egg. All these honey receptacles are connected by bands of wax, the bottom ones being made stronger than those where the honey cells are hermetically sealed—and being placed as far as possible from the entrance it would be extremely difficult for robbers to reach the stores of food by the tortuous channel passing through the labyrinth of plates. The nests are built in holes in rocks or in trees and when they have no more room a departure is made to a new location. The females, of which there are sometimes several in one nest, are much larger than the others and lay all the eggs. The males work as well as the workers. These bees are not quite so

cleanly as those of our hives, seeing that in bad weather they do not leave their nests but deposit their excrement in some corner thereof. The carcases of such bees as die within the nest are chopped up and partly removed, the residue being covered over with wax and propolis in the nests. This is plainly seen in the nest now being inspected. They had no stings, but were able to bite, and the bite of some of the species was very poisonous although those exhibited were quite harmless. The greatest inconvenience connected with the handling of these little bees was their tendency to crawl over one and getting into one's hair, for they are as difficult to dislodge as ants. He (the chairman) hoped to be able to keep them alive through the winter by not allowing the temperature to get below 60 deg. At the present moment they seemed as lively as when they first arrived, and as the importation of these bees had hitherto failed, great credit was due to Mr. Pender, who sent them off when they were hibernating, and could not have selected a more suitable time for their arrival in England. That gentleman had also forwarded him specimens of different sorts of honey and wax gathered by these and the common bees, which he would be pleased to show them at the next meeting (great applause).

Mr. Carr said that Mr. Hooker handed the little hive over to him on receiving it from the ship; and being determined not to lose any of the bees he had kept them at Orpington and never let them out, except one or two for the purpose of sending to Mr. Cowan in Switzerland. Upon making an examination some weeks afterwards he was delighted to notice a patch of brood nearly as large as the palm of his hand, on which was what he took to be the queen. He did not know what was going to happen, but hoped to have the privilege of watching some of the brood hatching out, but when he next inspected the patch of brood it was quite hidden behind a thick covering of wax. He had noticed a number of tubular-shaped black objects covered over with propolis, but could not at the time explain them.

Mr. Hooker said that when he went on board the ship he sought out the steward, thinking that he would probably have charge of the bees, but he found that they were in the cook's possession, who kept them in the place where his meat was stored. The cook had been told the temperature necessary for them, and he had carefully maintained such heat.

Mr. Till invited the opinion of the members on the subject of bottles for the exhibition of honey, and also advocated the inclusion in the schedules of all future dairy shows of a special class for "Commercial Packages" independent entirely of the contents thereof. In the case of honey bottles, he thought these might be considered eligible for competition in this class even if empty. So much depended on a pretty and showy bottle for the attraction of customers and the development of trade that he asked, why should not the B.B.K.A. patent a special kind of bottle? Messrs. Brice, Hooker, Carr, and others discussed Mr. Till's proposal, the general opinion being that it was of the greatest importance that the bottle selected should be one that would pack easily. It was also thought that the long bottle without shoulders, and which was in general use at the present time, could not be improved upon. At any rate, a round bottle with a small base gradually widening up to the shoulders, although handsome-looking, could not be recommended because it occupied too much space, and would not pack easily.

The Chairman said that the ordinary tall glass jar now in general use was the result of twenty years' experience of jars of all shapes. Shallow and wider ones had been tried, but fell into disuse. He thought honey looked better on a table in a narrow jar in which it could be seen through than in a wider one; besides, the former could be easier, more securely, and more advantageously packed than the fancy-shaped jars, which wasted space. On the Continent just like here, all sorts of jars had been tried, but they were adopting the parallel-sided jars in preference to others.

Mr. Howard had been asked by a bee-keeper to bring under the notice of the meeting a "frame-grip," which he now exhibited. He did not believe much in such appliances, but they might be useful to those who feared to bring their fingers in contact with frames.

Mr. Hooker thought that bee-keepers generally preferred to lift the frames by taking hold of each end.

The Chairman said that "grips"—made rather longer than the one shown because of the larger frames used—were adopted on the Continent in some parts. He would, however, much rather manipulate with his hands, and it was seldom that one's fingers were stung.

Mr. Hooker then showed a small observatory hive for staging bees on standard frames at shows, and which could also be adapted for exhibiting three shallow-frames of comb.

Mr. Garratt admired the exhibit, and said it was very necessary to provide some means by which shallow frames of comb honey might be displayed at shows in a uniform manner.

A general conversation ensued, Messrs. Pugh, Garratt, Hooker, Meadows, Scattergood, the Chairman, and others taking part therein, from which it transpired that Mr. Charles Redshaw had produced an observatory hive, adaptable in the same manner and very much like the one shown; also that Mr. Howard had for some time manufactured and sold a similar appliance.

Mr. Hooker also said that he did not claim any new features for his exhibit.

Mr. Pugh called attention to what he described as an indiscriminate giving away of various kinds of medals by associations as prizes. Two years ago his committee pro-

vided a neat silver pendant, designed to take the place of the ordinary medal, and which, being worn on the watch chain, was much prized by prize-winners. He passed a specimen "pendant" round for examination, when it received general commendation.

Mr. Till would like to see the County Associations provide regular honey customers with a good ornamental certificate, which could be posted up and displayed in shop windows.

Mr. Hooker, however, pointed out how that privilege was capable of abuse. Last year he notice at a dairy shop in London some genuine honey ticketed as from a bee-keeper's association. When this honey was sold, a lot of inferior stuff took its place, but the tickets remained.

Mr. Garratt moved a vote of thanks to the chairman for presiding, which was carried by acclamation, and suitably acknowledged, the Chairman expressing his pleasure at seeing such an unusually large attendance. The company then dispersed, after having spent a most enjoyable evening.

Death of Mr. John Huckle.

His numerous friends who are readers of this journal will share the deep sorrow with which we announce the death of Mr. John Huckle, Secretary of the British Bee-keepers' Association, and for many years connected with the business department of the B.B.J., who passed away at his home, King's Langley, Herts, on the afternoon of Friday last, the 25th inst.

We defer till next week a further notice of Mr. Huckle, and of his labours in the cause of bee-keeping.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

"APOLOGIA PRO BACILLUS ALVEI."

[2255.] Your correspondent, Dr. Bartrum (2248, p. 430), concludes his new edition of "Apologia pro Bacillus Alvei," with the extraordinary statement that the disease "*need occasion no alarm to any man who keeps bees in frame-hives and understands tolerably well how to manage them*"! Will Dr. Bartrum kindly say whether he has himself (I mean with his own hands) managed his own hives as well as actively helping his neighbours in the honest endeavour to wage war with the pest—burning, medicating, and disinfecting—and then, after all the work and anxiety of the campaign, has he felt, as many must have done, how completely *helpless* one is to effect permanent good, in the presence of an ignorant or obstinate bee-keeper who persists in keeping a centre for infection right under one's nose?

It is intensely disappointing to find an author like Dr. Bartrum—who at least has the reputation for bee-keeping wisdom—making light of honest endeavours to obtain protective legislation. *I should* like to know whether Dr. Bartrum has really been *himself at the work*, or is he trading on the experience of his "eminent" friend or that of his gardener? I contend that no man "understanding (even) *tolerably well*, how to manage frame-hives" can advocate such mischievous views. In 1893, Dr. Bartrum—as reported in B.B.J.—wrote in the same strain. *His* diseased hives had been "easily cured." Alas! the pest reappears. It is bad enough to have an active centre of infection at Wakes Colne, but far worse to have the seeds of such unsound doctrine blown broadcast from the Rectory all over the land.—E. D. Till, *Eynsford, Kent, October* 25.

"FOUL BROOD."

[2256.] Under the above heading in your last issue, our good friend Dr. Bartrum has expressed himself with characteristic frankness and candour, and as I have recently been enjoying a most refreshing holiday under his hospitable roof, I can, through a somewhat curious coincidence, speak to the circumstances related by him in connection with his apiary, as they are completely identical with those which were presented to his other guest—whom, by the way, he made no allusion to during my visit—"an eminent bee-master." The identity of circumstances is so complete that I also "bore away with me four frames of honey in order to feed driven bees," and therefore, Mr. Editor, my statement on the subject may perhaps suffice to obviate the necessity of a reply from the "Eminent" one, and enable him to retain his incognito. The examination which I made occurred on September 30 and one or two succeeding days, the weather being beautifully warm, so that it was leisurely done. With one exception the hives were in excellent condition as to strength, stores (pollen being unusually abundant), and sanitation. At Dr. Bartrum's suggestion, several of the hives were deprived of one comb to allow of the remaining ones being spaced a little wider, to permit of the bees' clustering more freely. This, of course, resulted in there being a certain number of spare combs, and as I could see no probable use for them in the apiary, and I having at home some colonies of "driven bees," to whom they would be a great assistance, the doctor readily assented to my proposal to acquire them. Thus far you will notice that I have not referred to the condition

of the hive to which I made an exception. This I found to be subject to foul brood in a very limited degree, and hardly to be regarded as infectious, inasmuch as the few cells dotted here and there were so heavily coated with wax, as to amount to almost hermetically sealing; the rest of the combs being perfectly clean, and clear of brood. I saw no necessity for insisting upon the removal of more than one comb, and this was accordingly done *and the comb subsequently burnt*; and I trust, Mr. Editor, that the course I took may not earn for me (or the "eminent") a heavy censure. You will see that *I* at least did not take away diseased combs to feed healthy bees with.

During my visit the subject of foul brood legislation and the methods of repression were naturally touched upon, and as the doctor has spoken his views so freely in his letter to you, I am free to say that our temperate discussion did not result in precise agreement. If bee-keepers generally were so enlightened as to know the disease when they saw it, and how to overcome it, and, above all, *to set themselves to work to stamp it out*, then arbitrary rules might be dispensed with; but when we find classes of persons taking up a selfish attitude and opposing every kind of effort simply on the ground of interference with their liberty to do as they choose—and of such there are representatives in all directions—then the powers that be must be invoked in order to protect the bee-industry. Optimism is much preferable to pessimism, but both may be said to be extremes. I myself lean so much to the former in this matter that I differ from many in regard to the cost of inspection and compensation. Taking the doctor's apiary as a sample case, twelve hives out of thirteen are found to be free from disease; the one only is our immediate concern; remedial measures are prescribed and carried out; this suffices for the present. A note is kept of the result of the inspection, and in due course a second visit is paid, when the inspector will be guided by what he then finds to deal more drastically, or, on the other hand, certify the disappearance of the disease. In the meantime, the bees in the roof may be ignored, and I need not lengthen out my letter by attempting to follow the disease into all its possible ramifications. As to compensation, I take it that hardly any one counts upon the wholesale destruction of apiaries because of the existence of the disease in one or two hives; but, assuming the necessity of the destruction of diseased hives, the amount of compensation should not, in my opinion, exceed the maximum of ten shillings. By hives I mean the bees and combs in the hive. There is much exaggeration in the arguments used in opposition to the proposed measures, and the analogy of the swine-fever regulations and such like which are put forward, will be found on close examination to have very slight bearings upon the question at issue.—JESSE GARRATT, *Meopham, Kent, October* 25.

HEATHER HONEY IN THE SOUTH.

[2257.] Mr. Jacomb Hood has been kind enough to send me also a sample of Woolmer Forest heather honey. My folks exclaimed, when tasting it, "How delightful!" The flavour reminds us of honey partaken of in the "dew of youth," half a century ago, at Wonham Mill, bordering on Reigate Heath, where heather used to abound. I yesterday had a visit from two Scotchmen who both declare it equal to average Scotch heather honey and were delighted with it. I once transplanted a large number of young but well-rooted heather seedlings from a peaty common—the subsoil of their new habitat was chalky and dry. Not a plant survived! A Scotch farmer near me says "heather always disappears with the application of lime." Can you suggest a good bee-plant for a very steep chalk bank? They say St. John's Wort likes chalk, but I do not remember to have seen the bees working it.

I feel we are greatly indebted to Mr. Hood and also to Mr. Webster for their valuable testimony to the value of Southern heather; it is absolutely refreshing to find a man cheerfully admitting himself mistaken. Perhaps some of our correspondents who stick so hard and fast to unsound opinions may be encouraged by Mr. Webster's example to confess themselves also in the wrong. I know men who get perfectly wild when you talk to them of "Foul brood" legislation! They remind me of one in a better cause who,

> "When his legs were smitten off,
> He fought upon his stumps!"

But obstinacy, after all, is only degenerate firmness, so I must not be too hard lest I become degenerate myself.—A. BIELLE.

SENDING HONEY BY RAIL.

HALF-RATES AT "OWNER'S RISK."

[2258.] Referring to letter No. 2252, p. 432, my crate of honey, weighing 19 lb. gross, has been surcharged 3d., making in all 6d. carriage for twenty-five miles.

I felt that the lower charge was "too good to be true," but it was not my mistake, the "minimum" had been overlooked. I believe nine out of ten who send honey by rail are ignorant, as I was, of the *half-rate* regulation ("owner's risk").—E. D. TILL, *Eynsford, Kent, October* 26.

DOES BEE-KEEPING PAY?

[2259.] I send a few mems. of my bee-keeping for 1895:—I began the spring with eight colonies (four old stocks and four driven lots), all in good order when clover begins to yield in June. My object being honey, not increase, I returned a swarm which came off on June 20. Weather grand till July 7, then

cold and wet. I removed ninety saleable sections by July 25, and, after extracting all unfinished ones, have a grand lot of partially-built-out combs for next year. Total weight of pure clover honey of beautifully light colour 8½ stone.

I took three of my best hives to the heather after giving them a crate of worked-out sections each; weighed one on going and on returning; increase in weight 24 lb. Got thirty-three completed sections; total amount heather honey, 3½ stone. Referring to the question, "Does Bee-keeping pay?" I can only say it pays me, for, so far as I have gone, my total expenditure is £7. 11s. 2d. for two years; honey sold for 1894, £2; and in 1895, £5. 12s. 1d.; total £7. 12s. 1d. On hand, about 3 stone and ten good colonies of bees for next year.

I make all my hives and fittings—frames, sections and foundation excepted, of course. I live rather too near the sea for having big "takes"—my bees having all to go inland for their forage and fly nearly half a mile before they reach clover, which is a great disadvantage.

I use the golden syrup tins for feeders. I simply cut a hole in the "ticking" next the frames, invert the can, with holes punched in the lid, right over it, and then cover up with sacking or anything to keep out the cold. When I want to change it I take another can, lift the empty one gently off, and put the full one on, before the bees have time to know what has happened. Any bees that adhere to the can are shaken on to the alighting-board. We are hoping to have some lectures on "Bee-keeping" this winter which will, I trust, increase the devotees of the art.—W. Barrows, *Eskmeals, October* 15.

THE SCOTTISH BEE-KEEPERS' ASSOCIATION.

[2260.] I have been waiting patiently and hoping joyfully for some indication that we have still a Scottish Bee-keepers' Association, but can no more "possess my soul in patience." Started with the brightest prospects and the greatest enthusiasm so recently as 1891, it surely has not already given up the ghost. The work it did might entitle it to a V.H.C. at least. Shows were held under its auspices, and an excellent library, small but steadily increasing in numbers, was doing admirable work in disseminating bee knowledge of the best and most modern kind. Reports were sent out full of interest to Scotch bee-keepers. A market was promised us for our honey, and something at least was done to secure it. Everything seemed bright, rosy, and "ominous" of success. But it has evaporated! I can use no more expressive word, for apparently the place that knew it "knows it no more." Bee Journal, *Record*, *Scotsman*, and local prints have never named its name for ten long months. Can you, or any of your readers, give any explanation of the mysterious disappearance?—A Member of S.B.K A., *Banffshire, N.B., October* 24.

REMARKABLE LONGEVITY OF DRONES.

[2261.] I was amused at Mr. Elliott's letter on the above subject (2,221, p. 404), and wish he could have given us the whole classification of these drones. I believe they start with the animal kingdom, but in some inexplicable way degenerate or break away before they get into the class *Insecta*. Indeed, the only way in which they show any signs of connection with this class at all, is that in many cases, during transformation, abnormal changes have taken place, and unlike ordinary drones they have in some unnatural way developed a sting! Sometimes, too, their jaws, or mandibles, are strong enough to give them the power to bite and inflict pain. They belong to an interesting order known as "Dog in the Manger." The family name is "Grumblers," Genus "Fault-Finders," and the species may be termed "Typicalis," possessing as special attributes peculiarity, selfishness, and brag! They are not common in the northern and north midland portion of the country, as the climate and surroundings favour the development of too many sturdy workers to tolerate them in the hive. They are, however, found in larger numbers, and with stronger jaws in the south midlands and south eastern portion of the country, and in order to prevent this undesirable species from spreading I suggest that they be transferred to a separate hive of their own, to be located where there is no chance of contaminating the working bees of other districts. If my suggestion cannot be adopted, then apply the following good county association mixture:—plenty of work of a practical kind; willingness to help and allow other people to think; avoidance of such things as carping criticism, mischievous action, and too much printer's ink. The above to be applied in strong doses, and if this does not remove these pests, put in practice the old "dodge," followed in cases where drones are sometimes tolerated in a hive after their natural time is up—*i.e.*, kill off two or three as a start, and the workers will take up the game and finish off the rest in a very short time by clearing them out "stock, lock, and barrel." This may cause slight "dwindling" in numbers, by reason of the turn-out, but these undesirable drones can well be spared, and the hive will be better for their riddance.—Peter Scattergood, jun., *Stapleford, Notts.*

DRONES GENERALLY.

[2262.] Male and female drones are not confined to B.K.A.'s. They are constantly found on *Dummy* Boards of all societies and are a curse

wherever they congregate. I hope Messrs. Editors you will not give too much encouragement to joking in the JOURNAL, or we shall associate those well-known initials with British Bad Jokes; nevertheless I sympathise with T. D. E., and understand his object in proclaiming what he deems his new (?) discovery. The time of year is approaching for B.K.A. elections. I hope a wise selection will precede them all. Every B.K.A. should use a Drone Excluder. You must not think me a solemn individual unable to laugh. I am fond of brevity in combination with wit. I am first cousin to "B. Short," and a partner in the firm of Merry and Wise of Ponder's End.—

MIDDLE SEX, *October* 25.

DAIRY SHOW.

EXTENSION OF PRIZE LIST.

[2263.] Like Mr. A. G. Pugh (2245, p 428), I quite agree with Mr. Brice that the prize-list of the Dairy Show should be extended, and I shall be glad to forward a small subscription towards the fund for prizes. Five classes for honey (with none for honey products), is an absurdly small number for such an important affair as the Dairy Show, which is, so far as my knowledge goes, the only annual honey show held in London. Many bee-keepers complain of not being able to sell their honey, but, to my mind, the only way of selling goods is to let people know that there are goods to be bought; and what better way is there of bringing honey and its products before the notice of the people than by means of shows? Surely, too, the metropolis should have by far the largest show in the country, which, certainly, is not now the case.

As a recent beginner with bees, I cannot, of course, claim much experience, but so far I have had no trouble whatever in getting rid of my honey, and making the bees pay. I took 43 lb. from my one hive this year, and though some was not taken off till the middle of August, it was all sold before September, together with 1½ lb. of beeswax. This is rather a large amount of wax, but, through my not having an extractor, I had to follow the old-fashioned method of obtaining the honey, and so reduced the crop. There is nothing wonderful in result; but this is a bad honey district by reason of there being too many houses. London is a few miles to the north, and Croydon two miles south; you can also walk from my place into London without going twenty yards from a house. So far, therefore, my bees have paid, as I still have the bees and appliances left, the latter in as good, the former in better condition than when I started. I consider the price of the wax and honey as clear profit, *i.e.*, nearly 80 per cent. But to return to the question of selling honey, I contend that proper co-operation and organisation is required for securing this, and as a beginning let every bee-keeper send a small subscription to the B.J. office, with the object of extending the prize list in 1896, depend upon it the money will not be wasted. We are told in the JOURNAL for May 16, p. 192, that there are 52,000 bee-keepers in England and Wales alone. If each sent but 1s. we should get £2,600. Why, at this rate we should crowd the hall out! Of course we cannot expect this from the poorer bee-keepers, but surely some of those who are better off can make up the deficiency.—E. TILLER, *Thornton Heath, October* 28.

BEES IN BANFFSHIRE.

[2264.] 1895 has been a year of abnormal weather. The winter was the longest and most severe on record. Early May gave us excessive heat, late September more excessive still. All summer was April weather, sunshine and shower, but far more of the latter than the former. Thunder and lightning, with accompanying storms, prevailed to an unexampled extent. October has again proved abnormal, and we have had the heaviest snowfall ever experienced at this date (22nd), the depth of snow being over a foot. Bees, like the weather, have been abnormally variable. At one time they promised to "beat the record," at another to give no surplus whatever. At last they have ended in giving a fair amount to some; while, almost side by side, they have proved a source of expense for feeding with no income to compensate the outlay. I have been fairly successful, but the returns have been strangely unequal in hives to all appearance doing the same work. My best gave me seventy-two finished sections, my worst only *three*. This last sent out a powerful swarm, which was returned, yet it only gave me 15 lb. of surplus. My best scarcely showed a single drone all the season. Another week would have almost doubled my total, but a perfect waterspout on August 14 completely washed out the heather when it was at its best. Swarming, too, showed a considerable amount of erratic oddities. In my own apiary I had only one bar frame which swarmed. A neighbour had eighteen swarms and casts from about a like number of colonies. Late swarms have done badly, and those keeping them on will find the game is not worth the candle. Sections sold well. All my hives have gone into winter quarters strong in bees and food.—D. M. M., *Banffshire, N.B.*

PREPARING FOR THE HEATHER.

[2265.] Referring to the proposed pamphlet on the "Preparation of Bees for the Heather Harvest," mentioned by Mr. Dent (2237, p. 420), I beg to say this question is receiving attention, and a paper thereon will be read to the members of the Northumberland and Durham Association at an early date. I was very sorry that the Northumberland and

Durham Association was unrepresented at the meeting held in the show yard at Darlington, and I gave Mr. Huckle an explanation regarding this when I saw him the day after.

With regard to the statement that sufficient information on the subject had already appeared in the BEE JOURNAL and RECORD, before suggesting the publication of a pamphlet, I looked up my BEE JOURNALS for four years back and did not find that much attention had been given to the matter; but many bee-keepers have no back numbers, including beginners and non-subscribers; and to show what difficulty there is in finding the various papers, Mr. Grimshaw's important article (p. 497, Vol. 20, 1892) is headed and indexed "How to obtain Honey in poor districts."—J. N. KIDD, *Hon. Sec. N. and D.B.K.A.*

BEE JOTTINGS.

FROM HIGHWAYS AND BY-PATHS.

[2266.] *Size of Colonies in Spring.*—Mr. Hand, in *Gleanings*, says:—"Too large a swarm in early spring is not desirable." I am afraid we do not suffer much in this respect. The general complaint is that our colonies are too small at this period for our liking. Any way, it is better to have too much of a good thing than too little, especially when a cure is at hand, viz.: either make two stocks of it (the colony) or use the surplus bees to help on any light lots. For my part, I should put a super on and get them to work building combs.

Royal Patronage for B.K. Association—"On August 10 last, the fortieth convention of German, Austrian, and Hungarian Bee-keepers took place at Leipzig. The whole affair was a great success, 1,500 persons being present. King Albert of Saxony, who had accepted the Protectorate of the convention, was present for an hour or two."—(*Gleanings.*) The bee-keepers present, no doubt, rose to the occasion, and agreed that the "craft" had got a rise in the world. We haven't reached the higher ground yet, but it is coming into view; everything comes to those that wait, it's only a question of waiting long enough.

Californian Honey.—C. W. Dayton, in *Gleanings*, writes:—"It is estimated that one-half the honey produced in California has been adulterated with glucose, and sent east (*i.e.*, to Europe) by wholesale firms." "Thus," he continues, "the coffers of wealthy adulterators have been filled, and the pockets of the poor bee-keepers emptied." The Editor, somewhat indignantly says:—"I cannot believe this to be true." Well, seeing is believing, and so far as this portion of the "east," reliable people (myself included), can attest that more than half the foreign honey on our markets is not only adulterated, but is "Pure Honey," quite innocent of ever having seen the interior of a beehive! This is not the worst of it either, for it is found that this trash is being sold as English honey. Some one is making a fat thing out of it. I quite echo Mr. Root's sentiments when he says "Let's have the truth"—though it is doubtful whether we shall ever get the "honest expressions" he desires.

Foul Brood.—*Gleanings*, I am pleased to see, takes up very decided lines on this matter, and one of the "Heads of Grain" is to burn everything, and 'don't waste time arguing that the queen or bees will not infect other combs." The Editor adds: "I should sleep better to know that everything pertaining to F. B. was thoroughly burned up." Good again!

Bees in a Coffin!—J. E. Walker, of Shaon, China, relates a curious case of "Bees in a Coffin." It appears to be a common custom of the land for the aged to have their coffins built and ready, finished up and varnished, in a shed adjoining the house. One of the lids of such a coffin fitted loosely, and a swarm of bees found a resting-place, and made a home there.

Mr. Walker continues:—"Chinese bees seem quite domesticated," and as far as he had observed, "always locate in, or near, some human habitation," seldom in trees, and "the coming of a swarm of bees to a house is considered a lucky event."

Weight of Bees.—Professor B. F. Koons ("Gleanings") gives as the result of his experiments on the above, some very interesting figures. The smallest number of bees necessary to carry one pound of honey as thereby shown, is 10,154, in other words, one bee can carry $\frac{1}{10154}$th part of a pound of honey, and the largest number required to carry the same quantity of honey is 45,642; the average of all the sets of bees weighed by him is 20,167, so that the average load of an incoming bee is $\frac{1}{20167}$th part of a pound. After two years' observation he finds from 3,680 to 5,495 bees go the pound, and that the average is 4,800. Drones go (largest) 1,808 to the pound, and the smallest 2,000 to the same weight. From the above, taking the average, it would appear that the difference in the weight of 20,167 incoming bees, and the same number of out-going bees, is 1 lb., and that practically a 4-lb. swarm when first hived is 3 lb. of bees and 1 lb. of honey. So that in buying my next swarm I shall stipulate so many pounds of bees at, say, 1s. 6d. per lb., honey at—shall I say, 6d. per lb.?—and deduct 1 lb. in every 4 from the gross weight on this latter account. — H. W. BRICE, *Thornton Heath, Surrey.*

HONEY FOR THE LADY MAYORESS.

[2267.] When the British bee-keepers went to the then Lord Mayor, Sir Stuart Knill, they took with them, if I remember right, a hundredweight of honey, in order to give

ocular demonstration of the bulk of honey obtainable from a well-managed hive. It must have been a fine object lesson. This year, however, a hundredweight and a half has been harvested from single hives. I hope the lady bee-keepers won't give a less effective object lesson than the gentleman bee-keepers did. We must remember that lady bee-keepers are not at present very numerous. The gentlemen bee-keepers must therefore help by contributing liberally. Scotland and Ireland must not be left out; Wales is sure to help. I glad send my pound and say in conclusion to you and all—B. SHARP.

BRITISH BEE-KEEPERS' ASSOCIATION.

It is requested that, until further notice, all communications intended for the late secretary, Mr. Huckle, King's Langley, be addressed "The Chairman, B.B.K.A., King William-street, Strand, W.C.

PRESENTATION TO THE LADY MAYORESS.

We do not yet know the exact date on which this presentation is to be made, but expect it will be during next week before the B.J. of November 7 has been issued. The response is satisfactory so far, but our friends must not relax their interest. We hope for a good number of contributions from (gallant?) gentlemen bee-keepers to help the ladies' effort.

If any bee-keeper possesses a small portable device of any kind showing comb, bees, &c., explanatory of modern bee-keeping, will he please communicate with us at once, in case such an exhibit may be wanted for the occasion.

Just before going to press we are pleased to be able to announce that the Lady Mayoress has consented to receive the deputation of lady bee-keepers, with their representative collection of native honey from the British Bee-Keepers' Association, at the Mansion House on Thursday, November 7, at 3 pm.

"SEASONABLE ADVICE."

SAVING SOME SHOW-HONEY FOR 1896.

It may be well for readers—who are exhibitors of honey—to bear in mind that in addition to the "Royal" Show at Leicester, in June next, there is every probability of a good exhibition of honey being held in connection with the annual show of the Bath and West of England Agricultural Society at St. Alban's. This latter show usually precedes that of the Royal by several days.

"Show-honey" will not be too plentiful in June next, consequently we venture to offer a a hint by way of—*verb. sap.*

METEOROLOGICAL SUMMARY.

SEPTEMBER, 1895.

Locality, Stoke Prior, Worcestershire.

Height above sea-level, 225 ft.

Rainfall, 0·49 in. In September, 1894, 0·98 in. rain fell.

Greatest fall in 24 hours, 0·25 in. on the 9th.

Rain fell on 6 days. In September, 1894, 6 days.

Max. shade temp., 82° on the 27th; max. for September, 1894, 67°.

Min. temp., 34° on the 20th; min. temp. for September, 1894, 30°.

Max. shade temp. at 9 a.m., 68° on the 23rd.

Min. temp. at 9 a.m., 46° on the 19th.

Frosty nights, nil. During September, 1894, two.

Max. barometer, 30·23 on the 20th.

Min. barometer, 29·52 on the 11th.

Wonderful weather during the month. Some days were not merely warm but very hot. The maximum for the last two years was reached on Friday, 27th inst., when the reading of thermometer in the shade was 82°. On four other days the mercury stood at 80° and over. Pasture land again assuming a parched and arid appearance. A falling barometer at close of month. Drones flying freely from some of the hives during the last week, notwithstanding young laying queens are present. Not much brood in most of the hives. Wasps still abound.—PERCY LEIGH, *Beemount.*

BEE-KEEPING IN SURREY.

CONFERENCE AT GUILDFORD.

On Saturday, October 19, a largely attended meeting of those interested in bee-keeping in Surrey, convened by the Technical Education Committee of the County Council, was held at the Ward-street Hall, Guildford. Mr. E. J. Halsey, chairman of the County Council, presided, and there were also present Captain Campbell (secretary of the Surrey Bee-keepers' Association), Mr. H. Macan (organising secretary to the committee), Mr. E. Dawe, Professor Lodge, the Rev. H. West, Mrs. Alan Cameron, Mrs. Maclear, Miss Thornfield, Miss E. Blundell, Messrs. A. D. Woodley, F. Baring Gould, J. N. Wohlgemuth, T. Tebbutt, J. W. Jacomb Hood, J. Garratt, C. T. Overton, F. B. White, A. H. Stedman, F. Brown, J. R. Aubry, Thomas Marsh, R. Blundell, Walter Reid, F. Blackmore, F. T. Fletcher, J. G. Welby, A. J. Carter, J. S. Greenhill, J. Gilbert, B. E. Day, J. Cox, E. E. P. Tindall, R.N., H. W. Lanaway, C. H. Adams, J. H. New, Michael Brown, Jesse Puttock, N. Soll, F. Lemare, &c.

Mr. Macan read a number of letters from gentlemen unable to be present, but expressing their interest in the proceedings.

After some remarks by Captain Campbell, hon. sec., and Mr. Dawe, treasurer of the

S.B.K.A., the Chairman said he thought they had heard sufficient to convince them that some new step was necessary, though there was no reason why the new organisation should not retain the name and traditions of the old. He had a great desire to do anything he could to help forward any such rural occupation as that of bee-keeping, which was undoubtedly of great value, and went a long way towards providing those who followed it with many little comforts and luxuries which they would otherwise have to go without. The recent tours of the Berks bee van in Surrey, under the auspices of the County Council, had given great satisfaction at a comparatively small expense, and had greatly stimulated interest. As there were at least 600 known bee-keepers in the county, the industry was one to which it was their duty as well as their pleasure to give attention to. His suggestion was that a provisional committee should be formed to discuss matters with the old Association and report as to the best course to adopt. So far as the County Council, who had convened that meeting, were concerned, they were prepared upon a business-like footing to assist them. They could not—and he was sure they would not expect it—vote public money simply to pay old debts, but they would endeavour to put the matter upon an honest footing, and see that in the future it was carried on regularly and properly. The Association would benefit, not merely from a financial standpoint, but from the fact that the County Council organisation was such that it covered the whole county. In conclusion, he thanked Captain Campbell for what he had done for bee-keeping, and thought that at his age it was little short of marvellous.

Mr. Jacomb-Hood proposed, and Mr. R. G. Blundell seconded, that a provisional committee be formed for the purpose of consulting with the old Association and drafting proposals for its reorganisation. Replying to a question, the chairman said he might lay it down that no sanction or aid in any way would be given by the County Council to any proposal which involved liabilities. The idea of the Council was that if the Surrey Association were able in any way to be restarted they would rather do this than simply start a new thing altogether. The motion was carried. A committee was then formed, consisting of the proposer and seconder, Mr. Brice, of Thornton Heath, Mr. F. B. White, of Redhill, and Mr. W. Reid, of Addlestone. Mr. Garrett, who has been engaged by the County Council to give practical instruction in bee-keeping during the coming spring and summer in several parts of the county, emphasised the importance of resting practice upon a sound and thorough basis of knowledge of the best methods. Mr. Woodley said there was a vast amount of work to be done by the organisation in this and in every other county. Organised effort only was necessary for the ready disposal of home-produced honey to the displacement of foreign produce. This had been tried in Berkshire with every success.

Some discussion followed on the subject of foul brood and the steps proposed to be taken for checking the progress of that disease, after which the Chairman, in his concluding remarks, said he supposed the County Council would not be illiberal in this matter of bee-keeping if it proved to be for the good of the county. He urged the need of more organisation and co-operation among farmers and dairymen and everyone employed in rural pursuits, and said that until there was real combination of effort prices would remain as they were and the public would continue to be swindled by eating and drinking that which was not what it was represented to be (applause). A vote of thanks to Mr. Halsey for presiding brought the meeting to a close.—(*Communicated*).

Queries and Replies.

[1395.] *Miscellaneous Queries.*—1. When bees carry in pollen during October, is that in itself evidence that the colony is not queenless? I requeened the stock about six weeks ago, but cannot spot the queen nor find brood. 2. Can I convert surplus syrup (made in autumn with the usual vinegar and salicylic acid) into candy? 3. My bees have refused to clean out some few extracted combs. What is the best thing now to do with these combs? 4. Is the lace-paper advertised for glazing sections used on the cardboard boxes sold or upon the bare sections?—G. J. A., *Lymington, October* 15.

Reply.—1. Pollen-carrying is at all times evidence of brood-rearing, but not by any means conclusive on the point, seeing that bees of queenless stocks, in their efforts to raise a mother bee, carry in pollen sometimes freely. 2. The only satisfactory way is to add sufficient sugar, and boil afresh. The quantities are 6 lb. of sugar to one pint of water. 3. Wash them in lukewarm water, and pass them through the extractor. 4. The lace-paper sold is generally for bare sections (when glazed). Boxes, as a rule, are glazed and papered ready for use.

LIABILITY OF BEE-KEEPERS.

At the Kidderminster County Court, James Jones, greengrocer, Stourport, sued the Rev. E. Davenport, Worcester, expert and lecturer to the Worcestershire Bee-keepers' Association, to recover £15, damages in respect of injuries to himself, and to his horse, and breakage of his cart, on July 16, through the alleged negligent and insecure packing of two hives of bees belonging to defendant. Plaintiff said he was engaged by defendant's man, Mark Hinds, to remove two hives of bees on July 16 from

Burlish Lodge to Hinds's house on Hartlebury Common. Witness had not gone very far before he and his horse were swarming with bees. The horse reared and kicked most violently owing to the bees stinging him, and he then bolted, breaking the cart. Plaintiff said he was so badly stung himself that he was unable to do anything for an entire week, and his horse was in the care of a veterinary surgeon for nearly five weeks. The defence was a denial of liability on the ground that the bees had been given to Hinds, and that Mr. Davenport had not himself engaged the plaintiff to remove them. His Honour decided to see an empty hive of the same construction as those used, and gave his judgment after an adjournment of the case for that purpose. He said he considered the defendant was liable in damages for the injuries plaintiff sustained. Part of the claim was for payments out of pocket, and his verdict would be for £10. 10s. with costs. (*Communicated.*)

MEASURING BEES' TONGUES.

A French naturalist has invented a very remarkable instrument, which he has termed a "Glossometer," for the purpose of measuring the tongues of bees. To the student of evolution these instruments will prove of great value in determining the part played by natural selection in developing the bee's tongue—that member which has so much to do with the fertilisation and perpetuation of our flowers and plants. It has been found that the length of tongue in bees differs very much in various hives, and it is evident that a bee which has a long tongue can obtain nectar in a flower with a deep calyx, where bees with shorter tongues cannot reach the nectar at all. It is to be hoped that this interesting subject of research will be followed up.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

M. L. (Manse of Applegarth).—Boxes of soft candy required for supplementing short stores should be put on hives now.

W. H. Wilson (King's Norton). — *Queen turned out.*—Looking to the fact that in all probability there was a queen with the stock in the first place, a queen with the added swarm in the second, and a further queen introduced in the third, our correspondent need hardly be dismayed at finding one queen turned out. He had better wait till next spring before disturbing the bees again, when an examination may prove the queen to be all right.

T. Hastwell (Bowness).—*Queens thrown out.*—Queens received are too dry for *post mortem* examination, and owing to the cessation of egg-laying for the season, it is not easy to judge from their appearance whether fertile or not. If they are, the probability is that they have been "balled" by their own bees, owing to rather rough manipulation; this not seldom causing "balling" in late autumn and early spring.

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W. P. MEADOWS,
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Editorial, Notices, &c.

MR. JOHN HUCKLE.

LATE SECRETARY BRITISH B.K.A.

It is not too much to say that the brief announcement of the death of Mr. Huckle on page 439 of our last issue will have caused a feeling of sorrow and sincere regret among bee-keepers throughout the land. For ourselves—and seeing how prominent a place in the bee-world our friend and co-worker had for some years past occupied—it is with something akin to melancholy pleasure that we place before our readers such particulars as are in our possession regarding one so worthy of all the good that can be said of him as John Huckle.

Born forty-nine years ago near to the village of King's Langley, Herts, he lived, and laboured, and in the end died there. As a boy he worked in the local paper-mills owned by Messrs. Dickenson & Co., and being of humble parentage, his day-school life had been of the briefest; but for some years he was a diligent pupil at the evening classes conducted by the village schoolmaster, and thus made up for his want of opportunity by day. In early life, however, a long and serious illness quite unfitted him afterwards for hard and continuous manual labour, such as he had been previously engaged in. But with quiet courage he set about instructing himself in the trade of bookbinding, by cutting up old books in order to find out how the work was done. Eventually, having profited by a few hints from a practical bookbinder, he became sufficiently expert at his new trade to earn sufficient to maintain himself. His superior intelligence, too, even at this time, brought him into prominence, and he was appointed hon. secretary of the King's Langley Cricket Club, which office he held for thirty-three years, in fact till his death. During this long period of time Mr. Huckle took a large share in the public work connected with his native village; every movement having for its object the well-being of his neighbours, finding in him an unostentatious but active, and, withal, judicious supporter. He was elected a member of the first Parish Council, and among the many public offices filled by him may be named that of secretary to the Parochial Committee, hon. sec. of the local Horticultural Society and of the Conservative Association, assistant sec. of the West Herts Habitation of the Primrose League, member of the Technical Instruction Committee and of the committee of the Reading Room. He was also appointed official scorer to the Herts County Cricket Club. Mr. Huckle's connection with cricket at this time led him to take up the business of tent-making, and he for some years supplied tents in all parts of the county for cricket matches, political meetings, &c. Later on his usefulness in cricket matters brought him under the notice of Mr. Peel, of Abbots Hill, and other influential gentlemen, all of whom entertained a high regard for his ability and worthiness.

MR. JOHN HUCKLE.

In 1878 began his first connection with bee-keeping. Mr. Peel having in that year undertaken the hon. secretaryship of the British Bee-Keepers' Association, and, being fully aware of the value of Mr. Huckle's assistance in secretarial work, he at once secured his services as assistant secretary. In this capacity Mr. Huckle had charge of the arrangements at most of the shows held under the management of the B.B.K.A., his remarkable capability as an organiser proving of the utmost value in making the bee department of the "Royal" and other shows under his direction models of efficiency and thoroughness. When rules were made, he not only adhered to them himself, but saw that they were properly carried out by others. He also managed—by the combination of quiet yet firm and judicious tact, with unvarying courtesy—to keep on good terms not only with exhibitors, but with all officials of societies under whose auspices the shows were held.

On Mr. Peel resigning the hon. secretaryship of the B.B.K.A., Mr. Huckle was, in 1883, appointed paid secretary of the associa-

tion, which office he held to the time of his death. Naturally of a retiring disposition and somewhat reticent in manner, he never pushed himself unduly forward; nor did he ever enter into the discussions of the committee, unless invited to express an opinion, when his replies were invariably simple, straightforward, short and to the point. So far as the members of the B.B.K.A. generally he earned and secured the personal esteem and goodwill of all, from the Baroness Burdett Coutts down to the humblest cottager. His correspondence on behalf of the association was at times very voluminous, necessitating numerous letters between the chairman and himself, even when Mr. Cowan was abroad, but he scrupulously avoided taking any step of importance without first consulting the chairman and securing his approval or advice. John Huckle was, in fact, an ideal secretary, and will be very difficult to replace, for, notwithstanding the many complex questions and conflicting interests with which he had to deal, we do not think he ever made a single enemy among those with whom he had business or social relations in his secretarial work connected with the B.B.K.A.

Mr. Huckle was also for some years manager of the business department of the B.B.J. and retained that position until failing health compelled him to give it up.

Regarding his labours in the same direction at "home" amid the surroundings of his village life, we learn that those who sought advice and guidance from him—and they were very many—no matter under what circumstances, never left without receiving help in the shape of thoroughly practical and good common-sense views; moreover, his advice was generally followed with advantage to the recipient. Indeed it may be truly said of him:—

"Still the wonder grew
How one small head could carry all he knew."

The effects of the illness already referred to as having occurred many years ago never left him, and through the whole of his after life his bodily health was undermined by an internal complaint, which in the end carried him off after only a week's confinement to his bed. His mental powers, however, were never dimmed, and in the person of John Huckle was seen a man of small stature, weak in body through broken health — besides labouring under other disadvantages which would have kept most men far in the background—who by patient application and perseverance won for himself a position among his fellows in the place wherein his life was passed, only to be gauged by the impressive scene at his funeral, when the whole village seemed full of sorrow for the loss of one who had been the unobtrusive but warm friend of all.

Two years ago an unusually severe attack of illness necessitated Mr. Huckle's giving up work altogether for a time, and going away for rest and change, and during his absence a public testimonial was set afoot, which resulted in the presentation to him of an illuminated address and a cheque for 150 guineas, £50 of which sum was subscribed by his bee-keeping friends through this journal.

Although never a bee-keeper himself, the late secretary took a warm interest in the association and did all in his power to advance the pursuit and its best interests. A few days subsequent to the meeting and conversazione at Jermyn-street, on October 10—at which Mr. Huckle was present in his usual health, and exceptionally cheerful spirits because of the good meeting—he contracted a chill which obliged him to keep his bed. His frequent rallies from similar attacks, however, caused his friends and himself to believe that in the course of a few days he would be about again, but he gradually became worse, and in the end passed peacefully and quietly away on Friday, October 25, in his forty-ninth year.

The esteem in which Mr. Huckle was held by his immediate neighbours was testified by the large congregation of mourners, who completely filled the church at King's Langley, representing people of high and low degree, among whom he had lived and laboured for the common good all his life.

The British Bee-keepers' Association was represented by the vice-chairman, Mr. H. Jonas, and the BEE JOURNAL by one of its Editors, and among the profusion of floral wreaths with which the coffin was more than covered was one from the B.B.K.A., sent through its chairman, and another "with the deep sympathy of Thos. W. Cowan."

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[2268.] *Candy Making.*—In answer to queries which have reached me lately on candy making, I would say—The chief difficulty with candy makers seems to be the stirring during the cooling process, or while the candy is in the water-bath. This part of the operation requires constant attention and continuous work with the spoon or wooden spatula until the mixture is of about the colour and consistence of oatmeal porridge; then, if poured out into basins, soup plates, or the blocked-tin baking dishes—first lined with paper—the cakes, when cold enough, can be inverted over the feed hole of quilt; or, if preferred, a hole can be cut in quilt right over

the cluster of bees. After the candy cake is placed in position, wrap all up snug, warm, and dry. Do not depend on the bees reaching candy unless it is placed *directly* over them, as the winter cluster is formed ere this ; and many stocks have starved, with food but a short distance from the defunct cluster.

Keeping Comb-Honey in Saleable Form.—This subject has been dealt with in detail time after time, yet it will well bear repetition, and as we are in the damp and fogs of November a caution will not be out of place for the sake of new readers who look to the JOURNAL for help on all subjects incidental to the pursuit. Comb-honey, in order to retain its pristine state as when first taken from the hives, should be stored in a warm, dry room, carefully protected from dust and mice. I myself find the racks in which the sections are worked on the hives, very good receptacles for storing comb-honey till wanted for market. After scraping the sections quite clean, I lay a piece of paper over the bottom of rack, and then replace the twenty-one sections, wedging the whole tightly together by means of a board. Correctly made section-racks have their sides high enough to take the pressure off the actual sections and so allow of stacking in tiers above each other without damage to them. I usually stand about four layers of sections on strong shelves with a single layer of paper between each tier ; pieces of glass are fixed in front as a protection, and a clean cloth spread over all, which keeps off any dust that may arise. If a sudden fall occurs in the temperature, the room is warmed by means of a lamp, and this heat—provided the lamp is kept properly trimmed—is the purest we can get. It is also the cheapest and it prevents any deterioration in the quality of the honey, sometimes, indeed, actually inproving its ripeness. I should not advise glazing the sections until an order is received for dispatch to customers, as they then reach the retailer in the best possible condition.

With the Editors' permission, I should like to say a few words on the class for commercial packages at the recent Dairy Show* not in carping criticism, but as pointing out a few of the defects apparent to my mind when looking through the class. 1st. I will take the padlock class of exhibits : Who, I ask, in a usual way of trade, would ever think of adding such an appendage as a padlock to a case of honey going per railway ? I will give the exhibitors credit for attempting to add something to its security against thieves, but when we examine the hasp of the case, through which the bolt of padlock is placed, we find the security more apparent than real. Again, take Mr. Howard's case, shown in the advertising pages of the B.J. and *Record*, why the removal of the three screws would give the thief free access to the contents !

The basket form of exhibit, too, is not at all, in my opinion, adapted for the wholesale trade. These baskets would do very well for sending off a single tin of honey to a customer (private trade) but the cost would be too much. Why, only last week I received two orders for family jars or tins, one for London, one for Cheltenham (14-lb. tins in each case.) These I packed in a grocer's "empty" at a cost of 2d. each. Baskets would have cost 9d. to 1s. each, padlock 3d. or 4d. To such expenses I offer my strenuous opposition, as handicapping a growing industry, while to the necessity for expensive cases I say "fudge!" My own exhibit in the class was "boxed" for 4d., contained identically the same honey as my prize honey in the bottle class, yet did not get nearer than a "reserve No." to prize winning, because I endeavoured to show beekeepers how to pack cheaply, though efficiently, and, with a little extra trouble, securely against thieves.

Referring to the question of extending the prize list of future "Dairy Shows," or other London shows, I beg to thank Mr. Till, also Mr. Brice, for their suggestions; but our new Thornton Heath friend, Mr. Tiller, has improved upon their suggestions, and if his suggestions are acted on by a tithe of the beekeepers of Great Britain, our parent association, the "British" would be in a position to make the schedule comprehensive enough to embrace all classes of honey, together with edibles and drinks in which honey forms the principal ingredient. Space in the Hall is valuable, but if bee-keepers will only make a grand show, it will be the means of bringing the industry to the front, and educating the British Public in the use and preference for the British product. Another point not generally known is that if an exhibitor makes four or more entries, he will get an exhibitor's pass for the show all through its duration (not transferable, of course).

I have failed to get honey sent at "half rates" per G.W. Railway passenger train (owner's risk). Can any one say if the reduction emanated from the Board of Trade as a suggestion ; also if some railways have reduced their rates for honey and others not ? I find charges somewhat higher per cwt. (goods train) than they were a year or two ago.—W. WOODLEY, *Beedon, Newbury.*

[* We would again remind Mr. Woodley that the class to which he refers was not for "Commercial Packages," as here stated, but for "Extracted Honey." The wording of the schedule is as follows : — "EXTRACTED HONEY. Not less than 1 cwt. in 7, 14, or 28 lb. commercial packages, suitable for wholesale trade."—EDS.]

THE FOUL BROOD QUESTION.

[2269.] My friend Mr. Till (2255, p. 439), in what he oddly calls my "Apologia pro Bacillus Alvei," inquires whether I have managed my hives with my own hands ? I beg, therefore, to assure him that I have taken

an active and personal share in the management of my apiary, often spending hours in working among the bees, with my gardener usually assisting me. Mr. Till, however, should address himself, not to personal questions, but rather to this point:—Is the appointment of a number of inspectors throughout the three kingdoms a matter of paramount and absolute necessity? Nothing, in my opinion, but overwhelming necessity can justify an addition to the burdens under which we country folks are staggering. I, at all events, cannot discover any such necessity. As I look around what do I see? Not far off, rich, good land lying desolate, covered not long since with thistles, the noxious seeds of which the winds were scattering far and wide. In several parishes close at hand, land which used to grow some of the best barley and wheat that England can produce, is let at 7s. 6d. and 5s. per acre, in some cases tithe free! Farm houses, farm buildings, cottages, go to rack and ruin; the young men hasten to the towns where they swell the number of the unemployed. Meanwhile county, district, and parish councils appoint inspectors, increase officials, and raise our rates! Last year the taxes and rates on my living (worth about £300 a year, with a large house and extensive grounds to keep up) amounted to over £100, besides £55 paid for the enlargement of the parish school. In the first half-year of 1895 I paid £107, and am just asked for £40 more! In one of the Essex towns the rates are close on 10s. in the pound, and are likely soon to be over 11s. "Dwelling among my own people," seeing year after year our distress increasing, I feel bound to oppose any (as I think) unnecessary and uncalled-for increase of our burdens.

The argument that others may suffer seriously if an "ignorant or obstinate bee-keeper," with foul-brood among his bees, refuses to take measures to check or extirpate the disease, is not, in my judgment, a convincing one. The ignorant man is pretty sure to suffer; but his neighbours need not; they can keep off the disease by napthaline or napthol beta. All the candy supplied to our bees in the early months is medicated with napthol beta, a precaution which has proved a very useful one. Even admitting (for argument's sake) that the neighbours of the "ignorant and obstinate" man will in some degree suffer, does such suffering warrant the appointment of paid inspectors (with power to award compensation) throughout the length and breadth of the land? I think not.

Will anyone argue now that the supply of English honey is becoming scarce by reason of foul brood. This morning with the BEE JOURNAL there comes a letter from Miss Mechi (an honoured name in Essex) stating that an allotment-holder had just offered her some "dressed" honey (as he called it) at 6d. per lb. He had a large quantity and could not sell it. First rate honey (as I stated recently) was selling in a neighbouring village in September at 6d. per lb. Once more I ask, where is the promised leaflet on foul brood? When are we to have it? That, as it seems to me, would probably do great good and at very little cost. When are we to have it?—E. BARTRUM, D.D., *Wakes Colne Rectory, Essex.*

[Referring to the above paragraph, it is news to us to learn that, because of the obstinancy of some "ignorant or obstinate bee-keepers," the appointment on so large a scale of inspectors, armed with such powers, was contemplated, and we should be glad to know how the idea has arisen in the mind of our esteemed correspondent.—EDS.]

FOUL BROOD.

ARE INSPECTORS NECESSARY?

[2270.] Having carefully read Dr. Bartrum's letter in your issue of October 24, and also Mr. Jesse Garratt's remarks thereon in this week's issue (p. 439), I thought it would not be presumption of me to relate my experience of foul brood during the three seasons I have kept bees.

Early in 1893 I bought two hives, and in May or June obtained two swarms to tenant them, with the result that at the end of the season we took about 30 lb. of honey, and packed them for the winter. In 1894 we got two swarms, which made up four colonies. At the latter end of the season one hive smelt badly, which made me suspect foul brood; but, before proceeding further, I should have said that in the spring of 1894, on opening one of my hives some of the comb was found to be green with mould (apparently the result of damp or mildew); this comb we cut out, and thought no more of it; but on suspecting foul brood in the hive referred to, I fed the bees with syrup, medicated with "Blow's remedy," and put camphor in the hive, and later on closed them up for the winter. On opening the hives this spring I found this colony was dead, and on sending you sample of comb you pronounced it foul brood, but apparently it had been treated properly.

Having lost one stock, I then bought another, and started the season of '95 with four again. From these I saved seven swarms, and a cast, beside losing one, and have taken at least 180 lb. honey. At the close of the present season we proceeded to prepare the bees for wintering, doubling up and reducing the number to eight. Unfortunately, however, on examining one hive (the one that had produced most honey), found signs of foul brood again, which was pronounced by yourself to be of a rather malignant kind, and as a result we have destroyed them.

In reading Dr. Bartrum's letter, the one thing that strikes me most forcibly is his apparent contempt for the disease; as, though it was something like chicken-pox or measles among children—a thing they must have, and

nothing to be frightened at—well, I wish I could have similar confidence ; but, be that as it may, some of my neighbours seem to think as he does, for it is quite evident the disease has been in our neighbourhood for years. Early this year one of my neighbours, who had lost a swarm during the winter, threw all the comb out of the hive for his other bees to clear out. I told him I thought it very wrong. Nevertheless he did it, and now has four colonies healthy and apparently very vigorous. Of course, you will say it is possible his might not have been foul brood. To this all I can say it had all the appearances that mine had —no difference to be observed in any way.

With regard to remedies, I have been using naphthaline all this season, but do not like it as well as camphor, for the simple reason that if there is the slightest naphthaline too much the bees die by the thousand, which did not seem the case with the camphor, and giving them naphthol beta in their syrup.*

In conclusion, let me add, I should welcome a Government inspector to examine my hives, and if he thought it would be for the advantage of the neighbourhood to kill all my bees (seven stocks, now full of bees and full of honey) on account of the infection, I should readily agree to it, and get a fresh lot from some healthy neighbourhood, and try again.—SAML. HEAD, *Ivybridge, Devon, November* 2.

[* We do not know what kind of naphthaline our correspondent has used, but so far as that sent out from this office, no such result as is stated need be feared. In fact, we have cognisance of cures where double the quantity stated in the "directions" for using has been given with no bad result whatever.—EDS.]

DRONES RETAINED FROM 1894.

[2271.] I would tell you a plain, unvarnished tale which conveys a fact, I should think almost, if not quite unique. My bees last year slaughtered the drones about the usual time, in August, but one hive, which I will call my W.B.C., was observed to have some flying all through October. In the mild weather of November they continued flying daily in considerable numbers. So late as December 25, a very mild day, when the bees had an excellent "fly." My diary notes :—"Drones still flying from W.B.C. hive." Then came the long winter and the bees never looked out till March 9, when they had a cleansing flight. On that day the entry is : "Seven drones seen." March 18 : "A good many." All through April the same story holds good. Of course, at Christmas and during March I suspected queenlessness ; but in April the hive showed so many bees, pollen was being carried in so well, and the work showed so much heart and energy that such doubts were dispelled. An examination on the 20th confirmed this, and showed a fine fertile queen, and a considerable quantity of brood—no drone brood visible—but drones were still in evidence, though not numerous. I add no remark of my own but this : That hive was my second best this season, and gave me forty-nine finished sections. I wish this tale to go to the "*World's End*," as the bees came all the way from there. Can you give me an explanation of the seeming anachronism ?—D. M. M. *Banffshire, N.B., Nov.* 2.

["Bees do nothing invariably."—EDS.]

JUDGING HONEY.

[2272.] With reference to "A Duffer's" letter (2249) and your reply thereto, I should like to know what there is to prevent Mr. Duffer from obtaining any information he may require as to the comparative value of any samples of honey he may send to you. Lately you witheld your opinion because you knew he was going to show. Another time he must get a friend, whose name is not on the list of entries for any forthcoming show, to send up his honey for him, and then, so far as I understand you, you will not hesitate to appraise the value of the honey sent.

I think it would be helpful to those who are called upon to judge honey at small local shows, and also to those who wish to exhibit at larger ones, if you would be so kind as to publish the amount of points allowed for colour, clearness, flavour, density, get up, &c. of run honey. An expert I have in my mind made a great deal of density ; how much does that count for ?—ROBERT S. ROUTH, *Longstock Vicarage, Stockbridge, October* 29.

BEE-KEEPING IN MANCHESTER.

[2273.] Early in the year I sketched a programme of our work for the season. This has been faithfully carried out in every detail with the exception of the shows. Arrangements had been made with our society for a show on a very large scale, but for reasons with which I will not trouble your readers, it came to nothing. Also the *pourparlers* with two other societies fell through from the same cause. No blame, however, is to be attached to the committee or workers of the L. and C.B.K.A. Indeed they made very generous offers. In the first instance a sum of over £7 being offered to swell the prize list. Still, notwithstanding many regrettable drawbacks to the work being done in this district, we have had an increase of over thirty active members and a new district formed. The new members have shown great and intelligent enthusiasm and have diligently set about mastering the difficulties of the craft.

Three lectures have been given here. A splendid meeting and lantern-lecture by the expert, Mr. Anstey, at the Technical School ; A lecture at Northenden, by the local H.S. : and another at Stalybridge, when a new

district was formed. Four out-of-door demonstrations have been held at this place, the first three being very well attended. The results have been—for this bad season in the North—fairly satisfactory; one beginner in the Sale district having taken over 50 lb. of excellent honey from one hive; another at Northenden has secured over 30 lb. Taking the members all round, those who started with stocks, or purchased "six-combed stocks" early in the spring have recouped themselves, while those who purchased swarms—swarms being very late this year—have not had very much surplus. Still they have had very little feeding-up to do. Here, so near town, my takings, though the average is less than half it was last year, have been 170 lb. from seven hives, or nearly 25 lb. per hive. Had the weather of September prevailed in July the result would have been very different; but I am content, and live in hopes of better "clover weather" next year. Having a good retail market, after purchase of a second swarm, a new hive, and many accessories, I am £7 to the good and heartily hope that others may have been as fortunate. In addition to the above honey takings I have secured about 3 lb. of wax. My takings might have been greater, but in the summer (May and June), to prevent swarming I piled on the supers and gave my bees work to do drawing out sections and shallow frames. The result is that I have now a stock of over 120 beautiful shallow combs ready to receive the forage of the bees next season.—FREDERICK H. TAYLOR, Local Hon. Sec., *Fallowfield, Manchester.*

BEES IN THE LAKE DISTRICT.

[2274.] As I am a constant reader of the B.B.J., and as I very seldom see any mention of the English Lake District as a honey-producing locality, perhaps a few lines may prove interesting at this period when active operations amongst the bees are suspended. I reside at a place about equi-distant between Ambleside and Windermere, but on the west side of Windermere Lake, in the midst of a splendid heather district, but one not so very well suited for clover honey, as the white clover seldom comes to perfection in this part. We have a Bee-keepers' Association which has been in existence for several years, and you may judge of its flourishing condition when I tell you that at our show in August, held in conjunction with the Local Horticultural Society, we offered prizes for honey to the value of nearly £8.

The season has been a bad one, the average yield per hive being only about 13 lb. owing to the severe winter of 1895 having destroyed much of the heather, and the weather during the heather harvest having been unfavourable.

At one time it is evident that almost every farm had its stock of straw skeps, for the recesses in the walls where they used to stand still remain, but now, alas! they are not tenanted, as the prejudice against frame hives is strong, and the straw skeps seem almost absolute.

The complaints of many of your subscribers as to the difficulty of disposing of their honey at a fair price does not apply here, for there is no difficulty in obtaining a shilling per lb. for heather honey, and I have known it frequently sold at 1s. 6d. in sections or in bars. I may say, however, that extracted honey is not so saleable.

I could give many amusing stories about our little friends which I have heard, but shall be obliged to defer them to a future occasion, or I may monopolise too much of your valuable space. I am sorry to say we are not free from foul brood as it prevails in a localised form, so far as I can learn, but not very extensively. I am wintering nine stocks, two being in a Wells hive, with which, however, I have been most unsuccessful hitherto, but am determined to give it a fair trial as it promises well for heather-honey. Hoping I have not trespassed too much on your space.—WM. ALLEN, M.B., &c., *Hawkshead, near Ambleside, November* 1.

HONEY AND WAX EXPORTS.

[2275.] The following figures, taken from the *Jamaica Gazette* of August 29, may interest your readers. They refer to the exports during quarter ended June 30, 1895, and are compared with the corresponding quarter in 1894.—E. H. HOPKINS, *Bromsgrove, October* 14:—

		Cwt.	qr.	lb.		Price. s.	d.
1895...	Beeswax	472	0	4	... per lb.	1	3
1894...	„	444	2	5	... „	1	3
1895...	Honey	1,852	2	26	...per cwt.	14	0
1894...	„	1,698	2	25	... „	15	0

"QUI S'EXCUSE, S'ACCUSE."

[2276.] I observe "Amateur Expert" (Mr. J. P. Sambels) has written direct to your correspondent, A. Prior (2240, p. 427). I *also* received a letter from him dated September 26, but marked "PRIVATE." I cannot, therefore, publish it, nor would any good end be served thereby. "Amateur Expert" must not, however, think me discourteous in leaving his letter unanswered. Correspondence begun in a periodical ought, as a rule, to end there; that is the chief reason why press correspondents conceal names. I trust I may remark that "Amateur Expert's" character has been cast in so eccentric a mould that no amount of "oil" in those endeavouring to work with him could prevent fatal friction. I say no more, but maintain to the letter what I have already expressed as to his original ill-advised contribution, which appears in B.J. for September 19. — E. D. TILL, *Eynsford, Kent, October* 29.

QUOTATIONS.

[2277.]—Is our friend Mr. Scattergood (2253, p. 432) correct in the quotation :—

"A man *convinced* against his will
Is of the same opinion still."

And can he give us a recipe for performing that most desirable operation? An old college worthy being once asked by an undergraduate for a piece of good counsel likely to stand him in stead through life, was treated to the following brief bit (characteristic of B. Short?) :—"Young man, always verify your quotations!" Our good friend Dr. Bartrum having (also recently) expressed himself with (such) characteristic frankness and candour, can probably inform us whether A. Bielle's quotation—

"Who when his legs were smitten off
He fought upon his stumps"—

is correct, and who is the hero in question?—O. Y., *November* 2.

DAIRY SHOW.

ADDITIONAL CLASSES FUND.

[2278.] I shall be pleased to add my mite to the above fund. Please put me down for 10s., and say when the cash should be sent.—S. A., *Highgate, Oct.* 29.

A SUGGESTION.

INCREASING THE CIRCULATION OF B.B.J.

[2279.] I hope the following suggestion will be received in the same spirit in which it is sent out, and that it may bear some speedy fruit. It has occurred to me that the increase in the number of British beekeepers must be comparatively slow, as they form only a very small proportion indeed of our rural population. It therefore follows that the circulation of so instructive a periodical as the B.B.J. can never increase by leaps and bounds, and the question occurs to me whether we bee-keepers, who owe so much to the JOURNAL and its Editors, could not improve the circulation by procuring it an entrance in every public library and reading room throughout the land. Take for example the matter contained in recent numbers: Mr. Colam's speech at Jermyn-street; Mr. Cowan's reply about the preservation of honey at Dresden—his description of Trigona carbonaria; southern heather honey by Mr. Hood, and so forth; where could you get a better pennyworth of instructive reading even for one who is not a bee-keeper? The Editors so thoroughly lay themselves out for the service of bee-keeping, that it behoves all who recognise the obligation to make a strong effort for the good of the B.B.J. Let every constant reader obtain one new subscriber. Smith & Sons' Bookstalls supply it at a penny a week, and now let us try and present the proprietor with a Christmas box in the shape of a increased circulation. What shall it be? I say 500 a week! — E. D. TILL, *Eynsford, November* 4.

ABOUT OUR BEES.

INTRODUCTORY.

The above heading has been in my mind for some time past as a suitable title for a series of papers which our Editors may perhaps find room for, and which it is my intention to write. I have, in some measure, been instigated to undertake the task because of several bee friends having incidentally suggested to me the opinion that a good portion of the matter which appeared from time to time in my "Jottings" was to a certain extent worthy of a special column where experiences and experiments relating to bee-keeping in our own country could be recorded while leaving "jottings" as a medium for expressing the opinions or experiences of others gleaned from American and other colonial bee literature. Whether I am right or not in adopting these suggestions I must leave to the judgment of readers, but having in view the favour with which my articles on "Rearing Queens," "Forming Nuclei," &c., have been received, it is not too much to hope that what I now propose to write may be read with equal interest. I may say, however, that it is not my present intention to embrace herein anything like the whole art of scientific and practical bee-keeping. A task so complex and difficult I leave to abler hands. Having, moreover, in view the fact that books already exist, dealing ably and exhaustively with bee-keeping as a whole, the necessity does not arise. I propose rather to handle my subject mainly from the practical point, with just sufficient of the scientific element to give my readers—so far as I can—the *raison d'être* for such conclusions as I may arrive at.

In order, however, that my remarks may possess a fair amount of coherency, I must begin, so to speak, at the beginning, and by degrees work through so much of the whole subject as may be deemed necessary, so that no important branch of apiculture may be overlooked. This will in some measure necessitate going over ground already well trodden by the old hand at bee-keeping, and I must ask those who already "know" all about it to bear with me for the sake of the large numbers who have joined our ranks, and are continually joining. Repetition can hardly be avoided, but it may serve the purpose of giving deeper root to important elements and operations necessary to success in our craft in the minds of the experienced, while to those who are not so deep in the finer points of the art it cannot but be helpful.

Like most others, I have had my full share of failures, and have seen many a pet theory shattered in the light of knowledge gained in the hard school of practical experience. In fact, knowing as I do how apt things are to turn out not exactly "what they seem," my readers may be assured that any facts brought to their notice will be verified by careful experiment and consideration, so to

arrive as closely as possible at the true state of affairs.

(I.)

ENTOMOLOGICAL.

The ground over which I shall take my readers has—as already said—been travelled oft before, yet there are phases of bee-keeping upon which my conclusions may appear somewhat at variance with accepted authorities. Such bee-operations, however, as are comprised in queen-rearing, dividing, uniting, forming nuclei, wintering small stocks, &c, have, during the season, been my almost daily work for years past, and as each one goes about work of this description in his own way, if success follows we are naturally apt to consider our ways are the best. Should repeated trials verify our idcas in this line, it is surely well to let others have the benefit thereof, and there is no better means of doing so than in our bee journals.

I do not propose to dwell longer than necessary on the scientific aspect of our art, seeing that those in want of a full insight into the natural history of the bee, its anatomy, and physiology, have available so excellent a work as "The Honey Bee," by Mr. T. W. Cowan. I therefore content myself with a brief *résumé*.

The honey bee, from an entomological point of view, may be said to be one of the most marvellous creatures in its structure ever sent to be of service to man. From the historical point we find honey, and the tiny producer thereof, alluded to in the most ancient writings, sacred and secular, but not until comparatively recent times has the structure of this wonderful insect received attention from men of science. Even at the present day the uses of some of its important organs are still a blank, and several of its delicate senses are imperfectly understood, some being, in my opinion, either totally unknown or unappreciated. Take, for instance, the sense of feeling. A bee when accidentally imprisoned—say between the frames or under a quilt—will utter a cry of apparent pain, where no pain to the insect can have been given. I have known bees fixed beneath the slightest of coverings utter pitiable cries, which, as I have said, could not be caused by actual pain, but simply by irritation under restraint. Then, what bee-keeper has not heard the queen's cry of passionate irritation, known as "piping," when a rival is about to come forth from her cell and dispute possession with her as maternal head of the colony? It may, of course, be a cry of mental rather than physical pain, but it is there nevertheless. On the other hand, who has ever heard an insect cry of pain under the dissecting knife? Pull off a leg or wing, or even cut the insect into two, and no sound will issue under the operation, so that it may be safely assumed that many of the senses with which insects are gifted are totally unknown to us, as we understand them. A careful study of these questions opens up a wide field of useful work which to the present day has been comparatively unexplored.

The honey-bee (along with wasps, ants, &c.) is found in the class Insecta; order, Hymenoptera; family, Aphidæ; genera, Apis; species, Mellifica. Of the above order there are 3,000 representatives in Britain, and—approximately—36,000 in the whole world (Kirby). This order of insects is, therefore, one of the largest in Britain, being about equalled in numbers by those of Coleoptera (beetles) and Diptera (flies), although only one species of Hymenoptera is indigenous to Britain—viz., Mellifica. Apis Mellifica, in common with most of its class, are provided with one pair of antennæ and six legs in the perfect state; the body is divided into three parts—viz., the head, thorax, and abdomen, and these being again sub-divided. All insects of this order have two pairs of wings, and before reaching maturity the bee passes through four separate stages of existence—viz, that of the egg, larvæ, pupa, and imago stage. The word aphidæ is given to this family on account of their feeding their young in a large measure on pollen, or pollen and honey mixed.

They are provided with two large eyes—one on each side of the head—composed of facets to the extent of many thousands. There are also a pair of simple eyes termed ocelli, placed near the top of the head, but so far I can find no certain or reliable data on which to base an opinion as to the respective uses of these separate organs. The nervous system is composed of a double chain of ganglia, extending from the head to the extremity of the body, the fibres reaching to all parts of the entire structure.

The antennæ is credited with being the seat of the organs of hearing, touch, and smell. The formation of the mouth embraces jointed organs termed labial and maxillary palpi, with the mandibles, proboscis, and tongue, or ligula. The abdomen is made up of six segments or rings, gradually diminishing in size towards the point or end. The upper or back plates being known as the dorsal, whilst those of the under side of the abdomen are termed ventral plates. Space precludes my entering upon the internal anatomy of the bee, but my readers will find full and interesting details in Mr. Cowan's work referred to above. The sting is, perhaps, too well known to require minute description now, but regarding this I consider it a mistake to look upon this organ as given to the bee merely as a means of defence. The sting has other important and undoubted functions beyond that mentioned. Bees breathe by means of spiral openings ranged along each side of the body, the worker having seven pairs, queens the same number, while the drone has eight pairs.—HENRY W. BRICE, *Thornton Heath, Surrey.*

(*To be continued.*)

BEE FARMS IN SERVIA.

Mr. Leveson-Gower, in a report to Lord Salisbury, from Belgrade, dated September 4, 1895, on the present state of agriculture in Servia, gives some interesting particulars on bee culture in Servia, which is at present in its infancy ; at the same time, he says a good deal of progress has been made of late years and at the present time there are several bee farms of considerable size in different parts of the country. One of these which he had the oppportunity of visiting the other day is situated close to Topschidere, a village about four miles distant from Belgrade. This farm is the property of a Servian society called "The Society for Bee and Fruit Culture." It contains about 200 hives placed in regular rows over the ground, and at an equal distance of 6 ft. 6 in. from each other, facing north, and in alternating rows. These hives are all on the bar-frame principle, and of the pattern generally shown as Dzierzon hives, and contain about 80 lbs. of honey in the comb when full. They are made of wood with straw sides, and are produced at a cost of 15 fr. or about 11s. each. The bees, to the uninitiated, appear to be a species of the common bee hive (apis mellifica), but are rather small in size and unusually tractable. On inquiring whether the Italian bee (apis ligustica) had been introduced into the country, the manager told me these bees did not succeed well in Servia, and became quickly merged with those indigenous to the country. The bee farm at Topschidere is provided with two centrifugal honey extractors of very simple design, but perfectly practical. The honey is extracted from the comb in these extractors, and put into glass bottles with screw tops of a very neat pattern, imported from Austria, containing respectively ½ lb., 1 lb., and 2 lb. The price of the honey is 1 franc per lb. (about 8½d.), exclusive of the bottle, for which an extra charge of 50 c. is made. The wax is sold to the wax chandlers for making into church candles, and realises 3 fr. 40c. per kilo, or about 1s. 3d. per lb. The importance of encouraging bee culture is evidently fully realised by the members of this agricultural society, and others interested, and the introduction of a law is in contemplation, obliging all priests, schoolmasters, and certain others holding employment under Government to turn their attention to the keeping of bees. Judging from the organisation of the bee farm at Topschidere, and the scientific and business-like manner in which it is managed, it appears likely that this society may be the means of introducing a system of bee-keeping on scientific principles, and of developing the industry throughout this country, where, until lately, the peasants have been in the habit of keeping their bees in conical straw skeps daubed with mud or plaster of the most primitive description, and destroying the bees in order to obtain the honey. The object of the society would be still better attained if cheap straw skeps with supers, as well as bar-framed hives and other apicultural appliances, which have been brought to such perfection in England, could be introduced into this country, and the cumbersome Dzierzon hive dispensed with.—*Globe.*

WEATHER REPORT.

WESTBOURNE, SUSSEX, OCTOBER, 1895.

Rainfall, 3·43 in.	Brightest Day, 17th, 7·8 hours.
Heaviest fall, 1·02 in. on 31st.	Sunless Days, 6.
Rain fell on 13 days.	Below average, 10·7 hours.
Below average, 1·25in.	Mn. Maximum, 52°.
Max. Temperature, 65° on 1st.	Mn. Minimum, 38°.
Min. Temperature, 23° on 28th.	Mean Temperature, 45°.
Minimum on grass, 19° on 28th.	Maximum Barometer, 30·52° on 18th.
Frosty night, 8.	Minimum Barometer, 28·95° on 9th.
Sunshine, 108·6 hours.	

L. B. BIRKETT.

Echoes from the Hives.

This is a period when no "echo" is heard, for all the "busy hum" is a thing of yesterday. A deep sleep or semi-torpid dream reigns in every hive. With me they are clad in a mantle of white. Stands are invisible, and even floor-boards are a thing of faith, and not sight, while roofs are a perfect picture, with miniature Alps of snow rising high above them to a height of nine inches.—D. M. M., *Banffshire, N.B., November* 2.

MR. S. J. BALDWIN'S VISIT TO AMERICA.

We are requested to say that during Mr. Baldwin's absence in America—where he will remain till about Christmas time—his business at Bromley will be carried on as usual. Important personal matters may in the meantime be addressed to him at 554, Maddison-avenue, Elizabeth, New Jersey, U.S.A.

THE BADCOCK FUND.

We are now enabled to give the names of the donors of 10s. each to the above fund, as suggested in our issue of August 8, p. 311, the required number of names having been received. Those who have not yet forwarded the amount will please do so, when the fund will be closed and dealt with. The following is a list of the donors to the above special fund :—W. J. Austey, 10s.; *British Bee Journal*, 10s.; Thos. W. Cowan, 10s.; T. Greenhalgh, 10s.; Dr. E. E. Jones, 10s.; J. H. H., 10s.; Arthur G. Pugh, 10s ; E. D. Till, 10s.;

Geo. Wells, 10s.; "Let brotherly love continue," 10s.

It should be stated that the above suggestion emanated from Dr. Jones and Mr. W. J. Anstey, at the Preston Show on August 8 last.

A BEE CASE.

In the Perth Sheriff Court on November 1 proof was led in an action at the instance of John M'Nab, water manager, Auchterarder, against J. G. Morrison, The Fens, Auchterarder. The action was for payment of £2. 10s., as value of a swarm of bees claimed by the pursuer as having flown from his hive on July 6 last, and settled in defender's garden. The defence, while admitting that a swarm of bees had alighted in the garden, was a denial of its being the pursuer's, and also of its having remained there and continued in the possession of the defender. Sheriff Grahame held that it was doubtful if the swarm referred to was the same as had come from pursuer, but while inclined to think it was the same, he considered pursuer had no right to enter upon the defender's grounds, and that, in the circumstances, defender could claim the hive. The verdict was, therefore, in defender's favour.—*Scotsman.*

ADULTERATION OF HONEY IN FRANCE.

Interesting letters have been exchanged between the French Minister of Agriculture and M. Naquet, the well-known deputy with a pharmaceutical experience, regarding the suppression of adulteration of certain articles of food, and especially of honey and of olive oil. The latter draws attention to the fact that besides being used in pharmacy, and as an article of food, honey serves also for making gingerbread, as well as certain sweets and fermented liquors. Unfortunately adulteration has caused the article to fall below its real value, and the industry of apiculture is threatened with ruin as a result. The deputy asks that, if there is no other means of preventing the fraud, a law should be passed prohibiting the adulteration of honey, similar to those already existing in respect of wine, butter, &c. M. Naquet suggests that the law should contain two penalties, one—the most severe—against adulteration injurious to health, and the other for merely commercial falsification. In reply, the minister draws attention to the fact that glucose syrup is the article most in use in adulterating honey. The scientific processes for discovering the fraud are, he says, well known, and it can always be detected by an experienced chemist. The law of Germinal, year xi., and the decree of 1859, enable a commission of competent men, chosen amongst members of the Council of Hygiene, to inspect the purity of products offered for sale by pharmacists, druggists, and grocers, at least once a year, and, in fact, as often as may be required. Prosecutions follow these inspections when necessary. Circulars are issued from the Ministry of Agriculture each year regarding any special articles that require particular attention, and a special note will be devoted to honey in the next issue.—*The Chemist and Druggist.*

MEAD MAKING.

If ordinary people know little about the quality of honey, they understand still less about hydromel, metheglin, or mead, as it is variously termed. The general conception of it is gained from the stuff commonly manufactured for home use by cottage bee-keepers. It is heavy stuff that would be drunk by no one in preference to a light cheap wine. But the sole reason for its badness is that it is manufactured from old combs and honey refuse. The makers tell you it ferments of itself—the pollen in the combs being the real ferment. But mead, if brewed from pure new honey and fermented by a preparation of crushed grapes or other suitable material, is a liquor fit to be compared with any wine, and may be had either still or sparkling. Considerable attention has been paid to the matter recently, and we cannot help thinking that science would be well employed in improving such an admirable home product. And those who have been in the habit of brewing good mead ought to let the fact be known.

It is of little use to lament that old-fashioned drinks like mead and cider are almost discarded for malt liquors. The truth about mead is that, when England was Roman Catholic, bee-keeping was very profitable, owing to the demand for wax candles, and as honey was plentiful, liquor was freely made from it. Then the Reformation came, and among less important changes, brought depression and discouragement to the apiary. Beer came into vogue, and has been immensely improved. Cottage mead is to-day, however, just what it was when Wamba, the son of Witless, had it for his supper. Now, however, owing to an increased demand for honey and a wide extension of bee-keeping, the time has come to devote more attention to it, and in these autumn days the goodwife in many a household would be very well employed were she to imitate her ancestors.—*Pall Mall Gazette.*

BEES AND THE REFORMATION.

An ingenious correspondent's theory that the Reformation was bad for the bees and their trade seems quite tenable. In the old days they used wax candles on all occasions—when they were christened and buried, married and churched, when they made vows, when they performed penances, when they went journeys, when they came back, when they anticipated trouble, and when they escaped it.

No ceremony was complete without candles. A candle was as necessary as the stole of the priest, and the church may be said in a secondary way to have been founded on beeswax. In fact, it might be contended "No Candle : No Crown." And it must be the right sort of stuff. You remember what Pope Gregory told Sir Ingoldsby Bray in detailing how the Prior of Abingdon's shrine should be arranged in Ingoldsby Abbey :—

And plenty of lights
Shall be there o' nights ;
None of your rascally "dips," but sound,
Best superfine wax-wicks, four to the pound.

In these circumstances one may well understand that bee-keepers had a good market for their commodity.

The Reformation, also, was apparently bad for English bee-keepers in another way. You know the old rhyme :—

Hops, Reformation, bays, and beer
Came into England all in one year.

The advent of beer meant the disappearance of mead, metheglin, and the various beverages into which honey entered as an important constituent. But perhaps this is not a very exact statement. So far as hops are concerned, there seems much doubt as to the date of their appearance. Mr. Edward J. L. Scott, Egerton Librarian, writes to say that he has found among the muniments of Westminster Abbey a reference in Latin to the plant dating back to the time of Henry I., that is, the first half of the twelfth century.—*S. E. Gazette, October* 1.

THE CZAR'S CORONATION.

A "LARGE ORDER" FOR MEAD.

The *Standard* of the 22nd inst. says :—"The committee now sitting in Moscow, upon the arrangements for the Coronation ceremony next spring, have placed orders for four hundred thousand mugs, bearing a portrait of the Czar, and over forty thousand gallons of mead, to be distributed to the poor people in celebration of the occasion."

[This appears a very large order, but it must be remembered that mead is used like beer in Russia, and that there are large breweries devoted to making it. The beverage as made there is about the strength of very mild beer. —EDS.]

THE HONEY BIRD.

"The honey-bird, of which we saw several during the trip, is well worthy of mention as a natural curiosity. It is a little grey, common-looking bird about the size of a thrush. It first forces itself upon the notice of the traveller by flying across his path, uttering a shrill, unlovely cry. It will then sit on a neighbouring tree, still calling and waiting for him to follow. By short, rapid flights, the bird will lead its guest on and on, till, after a while, the traveller notices that the bird has stopped its onward course, and is hanging about among a certain half-dozen trees. These being visited one after another, and carefully examined, the search will be rewarded by finding a nest of bees in one of them. The probability is that there will be honey in it, but I have known the bird mistaken. It is a matter of honour with the natives to set aside a good portion of honey for the bird. Although this action of the honey-bird is an established fact of natural history, it is none the less unaccountable, and it would be interesting to know whether he ever tries to entice quadrupeds also to assist him in obtaining his much-loved honey."—*From "Lion Hunting beyond the Hand" (East Africa), by H. C. Lowther, in the "Nineteenth Century" for September*, 1895.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

J. C. (Somerset).—*Honey Candying Badly.*—The white streaks or patches appearing on outside of glass jars of granulated honey are caused by filling the jars improperly, so far as not allowing the stream of honey—when liquid—to fall in centre of jar, and fill so gradually as to let no air-spaces at sides. It is the air which causes the "whiteness" you complain of.

ANXIOUS (Bristol).—*Bees Dying Outside Hives.*—1. If bees are healthy, well supplied with food, and warmly wrapped, there is no reason for them "coming outside to get chilled and die of cold" at end of October. The only remedy we can offer is to see that the essentials referred to above are fulfilled. 2. It may be that the candy-food now on hive requires water to enable the bees to soften it sufficiently for use, and that search for the liquid moisture brings them out. Bees should now be entirely quiescent, except on warm, sunny days. An examination of the hive interior may serve to clear up matters somewhat.

J. RHODES (Greenhythe).—*Moisture at Hive Entrances.*—If the bees are strong in numbers there is no cause for alarm in the moisture at entrances. It is nothing more than the condensation of the warm air of the hive's interior, as it reaches the lower temperature of the outside, on the "frosty mornings" mentioned.

A. PEARSON (Rutherglen).—*Suspected Comb-Foundation.*—The foundation sent is, no doubt, made from beeswax. There may be a very slight adulteration, but we found the melting point of sample high enough to warrant a dealer sending it out as of good beeswax.

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Editorial, Notices, &c.

PRESENTATION TO THE LADY MAYORESS.

The above "event," which, it is not too much to say, was regarded with lively interest by a considerable section of our readers, was brought to a successful termination at the Mansion House on the afternoon of the 7th inst., in the presentation to the Lady Mayoress of a representative collection of British honey, "contributed" (to quote the words of the ladies themselves) "by women bee-keepers, or the wives and daughters of bee-men in various parts of Great Britain."

The presentation took place in the drawing-room. The honey, &c., was neatly arranged in "trophy" form on the central table, prettily decorated with flowers and ferns. The ladies' "display," though not quite so large as that seen on a similar occasion at Jermyn-street a short time ago, looked very well indeed, having some additions in the shape of beautiful samples of British beeswax, mead, honey vinegar, &c., together with an excellently-worked design in honeycomb, consisting of the figures "1895," contributed by Mrs. Wm. Dixon.

The deputation, comprising the ladies whose names appear below, was supported by Mr. E. D. Till, Mr. Jesse Garratt, Mr. W. Broughton Carr, and the Rev. G. C. Bancks. Pasteur Langel, president of the Swiss Bee-keepers' Association—who happened to be in London at the time—was also present.

In the unavoidable absence of Sir Jas. Whitehead (vice-president of the B.B.K.A.), Mr. Till briefly introduced the deputation to the Lady Mayoress, who was accompanied by the Lord Mayor; and Miss Jessie Smith, of Clayton Croft, Dartford Heath—who, by the way, is herself a practical bee-keeper—read the following address:—

To the Lady Mayoress of the City of London.

May it please your ladyship, we, as representing the women bee-keepers of the United Kingdom and the British Bee-keepers' Association, as well as the many county associations affiliated thereto, beg your ladyship to accept at our hands a representative collection of native honey, contributed by women bee-keepers, or the wives and daughters of bee-men, in various parts of Great Britain.

It will be gratifying to your ladyship to know that the minor rural industry of bee-keeping, in which we take a special interest, has of late made very satisfactory progress. This is, in great measure, due to the advocacy of bee-keeping in the public press, and particularly to the favourable reception accorded to the deputation of British bee-keepers by Sir Stuart Knill, at the Mansion House, on November 1, 1893. The Merchant Taylors', Clothworkers', and Mercers' Companies have also contributed, since that event, by most acceptable donations to the British Bee-keepers' Association.

At the present time, therefore, our desire is not so much to urge the extension of bee-keeping as to encourage increased consumption of native honey and its products—honey vinegar, mead, and honey confections.

Beyond all question, our British honey should have a recognised position on the breakfast-table—not merely as a luxury, but as an essential article of the household dietary.

The sale of spurious and adulterated honey has been very detrimental to the development of a healthy taste for our own British honey, and it is probably only necessary for this fact to be known to the Worshipful Company of Grocers and the Worshipful Company of Apothecaries, to ensure their initiating an effective crusade against the vendors of such objectionable compounds.

No more fitting opportunities can exist for drawing public attention to the excellent product of our native hives than competitive exhibitions of bees and honey similar to that at which your ladyship was recently present at the Agricultural Hall. We venture, therefore, to express the hope that future occupants of the civic chair will extend to honey competitions held within the sphere of the Mansion House influence those practical encouragements already given with such good results in other departments of agricultural production.

Our bee-keeping associations would fain hope that the trade guilds of this great commercial centre might be induced to offer kindred encouragement, in order to bring together large representative collections of native honey from the hives and the cottager homes of our rural population. We are certain of this, that no prizes would be more sought after by British bee-keepers.

In conclusion, we desire to accord your ladyship, and also Sir Joseph Renals, our hearty thanks for graciously affording us the opportunity of bringing our tribute to the Mansion House, and explaining to you the objects we have at heart, in our desire to benefit bee-keeping.

London, November 7, 1895.

Monsieur Langel, as we have said, happened to be in London, and the Lord Mayor sent him a formal invitation to be present. He was very much delighted with the proceedings, and told the Lady Mayoress that the adulteration of honey, or, more properly speaking, we fear artificial manufacture of what the Swiss call "Hotel" honey, is carried on to an enormous extent, and he very much regretted the fact.

We append a list of the names of those who have contributed so effectively to the success of the presentation to the Lady Mayoress. The time was short. The work of taking out

the names, packing the honey and staging it at the Mansion House, had to be done by volunteers who had little leisure. Consequently we hope if any who kindly sent us contributions of honey find their names omitted they will excuse it, and, on hearing from them, the omission shall be supplied next week.

DONORS OF HONEY, &c.

Mrs. Jas. Alexander, Eynsford.
Miss M. Alexander.
Miss Atkey, New Barnet.
Miss A. H. Arbuckle, Thorne, Yorks.
Mrs. Gerard Bancks, Dartford.
Mrs. H. W. Brice, Thornton Heath.
Mrs. J. Bruce.
Mrs. Harry Bates, Farningham.
Miss Biggs, Eynsford.
Mrs. T. S. Curteis, Sevenoaks Rectory.
Mrs. T. W. Cowan, Fowey, Cornwall.
Miss Cowan, Fowey, Cornwall.
Miss E. Cowan, Fowey, Cornwall.
Miss M. J. Carver, Wellington, Salop.
Mrs. W. Broughton Carr, Lee, Kent.
Miss L. M. Carr, Lee, Kent.
Mrs. Wm. Dixon, Beckett-street, Leeds.
Mrs. J. O. Dewey, Swanley, Kent.
Miss Drinequbier, Ewell, Dover.
Miss Dunnington, Worcester Park.
Miss F. Hughes, D'Aeth, Canterbury.
Miss M. E. Eyton, Wrockwardine Hall, Wellington, Salop.
Miss Eggington, Reading.
Mrs. Stanley Edwardes, Farningham.
Miss Emerson, Hextable.
Miss Gayton, Much Hadham.
Mrs. Jesse Garratt, Meopham.
Miss Garratt, Meopham.
Miss Ethel Garratt, Meopham.
Mrs. R. Godson, Tothill, Lincs.
Mrs. A. Hamer, Llanarthney, Carmarthen.
Mrs. J. W. Jacomb Hood, Surbiton.
Horticultural College, Swanley (Women's Branch).
Mrs. Kirk.
Miss H. Laurence, Clitheroe House, Leeds.
Mrs. Longhurst, Longfield, Kent.
Miss Micklethwaite, Chepstow.
Miss McLennen, Boro' Green, Kent.
Mrs. John New, Croydon.
Mrs. Oldham, Ashton-on-Mersey.
Mrs. A. M. J. Pipon, Farningham.
Miss Graham Powell, Hextable.
Mrs. W. H. Rand.
Mrs. H. W. Seymour, Henley-on-Thames.
Evelyn A. Seymour (the baby bee-keeper).
Mrs. Frank Swanzey, Sevenoaks.
Mrs. W. Smith, Shepherdswell.
Mrs. Elvey Smith, Southfleet.
Mrs. A. Sharp, Brampton, Hunts.
Miss Jessie M. Smith, Dartford Heath.
Miss Mildred Smith, Dartford Heath.
Mrs. Shea, Little Wakering Vicarage.
Mrs. Owen Tudor, Farningham.
Miss Tudor, Farningham.
Miss E. A. Till, Eynsford.
Mrs. Todd, Hextable.
Miss Windemer, Tunbridge Wells.
Mrs. William Woodley, Newbury, Berks.
Mrs. Watson, Hextable.
Mrs. Wilson, Langford.
Mrs. George Wright, Ramsgate.
Mrs. J. Wildgoose, Bakewell, Derbyshire.
Eight Lady Bee-Keepers (per H. Jonas, Esq.).

Of the above, the following were present at the deputation :—Miss Jessie M. Smith, Miss M. Smith, Mrs. Watson, Mrs. Jas. Alexander, Miss M. Alexander, Miss C. McLennen, Miss Garratt, Mrs. E. Longhurst, Miss L. M. Carr, Miss Micklethwaite, Miss Atkey, Miss Dunnington, Miss Windemer, Mrs. Gerard Bancks, and Mrs. H. W. Brice.

The ceremony passed off without a single contretemps. The Lady Mayoress and the Lord Mayor both made all present feel thoroughly at home. The words he addressed to the ladies were pleasant and practical, and cannot but have an excellent effect.

After the ceremony the Lady Mayoress invited those present to partake of light refreshments, and conversed freely for a long time with one and another of the company in the most hearty and friendly manner.

LANARKSHIRE B.K.A.

The first show under the auspices of this association was held in the Public Hall, Larkhall, on Saturday, the 19th ult., with most encouraging results, there being over 150 exhibits of honey and bee appliances. The show throughout was of the most interesting character, and augured well for the future. No little credit for the success of the show is due to Mr. John Stevenson, the secretary, and the active committee. The judges were the Rev. R. M'Clelland, Renfrew; Messrs. John Wishart, Peebles; Wm. Gorrie, Carluke; and Samuel Deans, Dalserf, who made the following awards :—

Display of Honey.—1st, M. Paterson, Larkhall.

Display of Honey (*not over* 100 *lb.*).—1st, M. Paterson.

Honey Design.—1st, Walter Rae, Biggar.

Super (*not over* 20 *lb.*).—1st, W. Brown, Strathaven; 2nd, S. Mitchell, Garnkirk.

Super of Heather Honey (*not over* 20 *lb.*).—1st, J. M'Donald, Larkhall; 2nd, R. Stewart, Stonehouse; 3rd, James Greenshields, Larkhall.

Super (*not over* 10 *lb.*).—1st, M. Cowie; 2nd, Willie Cowie; 3rd, Jas. Cowie, Lesmahagow.

Twelve 1-*lb. Sections.*—1st, Andrew Bow, Biggar.

Twelve 1-*lb. Heather Sections.*—1st, A. Bow.

Six 1-*lb. Heather Sections.*—1st, A. Bow; 2nd, W. Brown, Larkhall.

Two-lb. Section.—1st, Wm. Brown; 2nd, John Park, Crossford.

One-lb. Sections.—1st, A. Bow ; 2nd, Wm. Brown.

Twelve 1-lb. Jars Extracted Honey and *Twelve 1-lb. Jars Heather Honey.*—1st, Jas. Cowie.

Twelve-lb. Extracted Honey and 12 lb. Heather Honey, in 2-lb. Jars.—1st, Jas. Cowie.

Three 1-lb. Jars Extracted Honey.—1st, A. Bow ; 2nd, W. Rae.

Three 1-lb. Jars Heather Honey.—1st, A. Bow ; 2nd, John Leiper ; 3rd, W. Rae.

Three 1-lb. Sections.—1st, Walter Brown, Strathaven.

Three 1-lb. Jars Extracted Honey. — 1st, S. Mitchell ; 2nd, M. Cowie ; 3rd, John Greenshields, Larkhall.

Three 1-lb. Jars Heather Honey. — 1st, Robert Meikleham ; 2nd, Thos. Anderson, Larkhall ; 3rd, J. M'Donald.

Observatory Hive. — 1st, John Paterson, Pollokshields ; 2nd, W. Rae ; 3rd, M. Paterson.

Frame Hive.—1st, J. Paterson ; 2nd, James Allan, Stewarton.

Super of Honey.—1st, James Muir, Larkhall.

Collection of Bee Appliances.—1st, J. and R. Thyne, Glasgow.

Four Frames Comb-Honey.—1st, Robert Meikleham.

Comb-foundation.—1st, J. and R. Thyne.

New Invention Useful to Bee-Keepers.—1st, G. W. Hole, Patcham, Sussex.

Wax.—1st, Alex. F. Thomson, Larkhall ; 2nd, James Gold, Larkhall ; 3rd, James Cowie.

Honey-Cake.—1st, W. Rae ; 2nd, A. Bow.

The judges and others were afterwards entertained to dinner, at the close of which interesting addresses on the subject of bees were given by several of the judges, Mr. Lambie, and Mr. Pearson, Assistant Inspector of Mines, &c.

HONEY IMPORTS.

The total value of honey imported into the United Kingdom during the month of October, 1895, was £1,780.—*From a return furnished by the Statistical Office, H.M. Customs.*

IRISH BEE-KEEPERS' ASSOCIATION.

A Conversational Meeting was held on 6th inst., a report of which will be sent next week. The Committee met on the following day. Present : Captain Millner, in the chair, Mr. Reid, Mr. O'Bryen, and Mr. Chenevix. A sub-committee was appointed to confer with the Congested Districts board as to the measure to be adopted in their districts next year for the promotion of bee-keeping. The question of holding Conversational Meetings four times a year was raised, but left over for further consideration till next meeting. It would be of service if members, who would be likely to take advantage of such an arrangement, would kindly write to that effect to Henry Chenevix, Hon. Sec., 15, Morehampton-road, Dublin.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C." All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C." (see 1st page of advertisements).*

THE DAIRY SHOW.

EXTENSION OF PRIZE LIST FOR 1896.

[2280.] I have much pleasure in reporting that the idea suggested in my letter (2229, p. 416) is developing exceedingly well. I have now a list comprising many names of our leading bee-keepers, who approve and promise assistance in the scheme. All agree that it is time bee-keepers did something to help themselves by concerted effort, and that up to now, too little attention has been paid to organisation or amalgamation. We have each gone on in our own way, and considered self-interests paramount ; forgetful of the fact that unity is strength. I am more than ever certain that if we can establish a big annual metropolitan exhibition and honey fair, the outcome will be of the greatest good to the craft generally and to bee-keepers individually. The earnest and patriotic co-operation of all, however, is needed, and bee-keepers—whether in a large or small way—should assist according to their means, either in cash or in kind. For the latter I would suggest the sending on of a pound or two of good honey to be sold at the annual show, and the proceeds credited to the "additional classes fund." Direct assistance of this kind would, of course, have to be recognised by the honey of such helpers receiving some preference when "selling" is going on during "Fair time."

I am hoping that the council of the B.B.K.A. will consider this question and take the matter up, so soon as we can judge even approximately of the amount of assistance likely to be afforded. I am pleased to see that a pupil of mine has pointed out in the B.J. of October 31 (2263, p. 442), that 1s. from each of the 52,000 bee-keepers in England and Wales alone would be £2,600 ! A trifle less than

this would content us; but, seriously, there should be no difficulty in raising a fund sufficiently large to enable us, by attractive displays at all exhibitions, and the formation of "selling-classes," &c., thereat, to sell a very large portion of the honey-crop of Great Britain in this way alone. A few hard workers have taken this matter in hand, and if bee-keepers as a body are willing to co-operate in the way indicated, not only will prize winning be open to all kinds and varieties of bee-products, but the "honey fair" would provide a market for their produce, and thus give British honey a fair chance of becoming favourably known to the British consumer. A result like this could not be regarded otherwise than as an unprecedented success.—H. W. BRICE, *Thornton Heath*.

[2281.] The matter being ventilated under the above heading recently in your valuable JOURNAL is surely one to demand the attention of every bee-keeper seriously interested in the future well-being of the industry—Whether Mr. Tiller's hopeful estimate of the generosity of the bee-keeping fraternity generally is likely to be realised or not, it is, nevertheless, in my view, incumbent upon all of us who wish to see the culture of bees take its proper place among the national industries, to find funds somehow for one of the first objects we have in view, viz.—The encouragement of exhibitions of bee-produce, and indirectly the development of a proper demand for honey and its products. From what we see and read, it becomes evident that funds for the purpose will not be forthcoming without individual effort, and are not to be found in the coffers of the British Bee-keepers' Association. But should not the parent Association take this matter up officially, and, as a responsible body, open a fund for a really representative and national honey exhibition, and contest either in connection with some other agricultural or horticultural association or independently? I can assure those gentlemen interested in this matter that any such fund would receive whatever small financial support I could afford.

Upon this subject of exhibitions under the ægis of the British Bee-keepers' Association, I venture to express the view shared by others of my acquaintance, that the recent show of bees and their products at the Agricultural Hall, although possibly an advance on former years, was not worthy in arrangement and presentation to the public of the important industry it represented. I know that nothing better could be done with the means at disposal, and that only by a liberal subscription to a special fund for the purpose can a really representative exhibition that will rivet the attention of the public be given.

The untidy corner of one gallery allotted to the honey exhibits at Islington recently did not give evidence that the exhibition authorities regarded them as an important branch of the show. The general advertisement of the exhibition seemed designed to exclude any notice of the honey classes, as did most of the reports of the show published in the daily press. I know more than one party of individuals who visited the hall, and came away without any idea that honey and bee appliances were on show, and all for the want of proper pushing and advertising.

Until wholesome honey and its products are metaphorically pushed down the open throats of the British public, they will be content to be poisoned with the deleterious mixtures passing as "jam," and with the low quality foreign butters that the salesmen thereof force upon them.—JNO. J. H., *Surbiton, November 7*.

BEES IN COUNTY KILKENNY.

A SUCCESSFUL IRISH EXPERIENCE.

[2282.] Now that the bee-season of '95 is over, extracting, cleaning-up, bottling, glazing, exhibiting, marketing, and feeding is over, it may not be out of place for me to send you some notes of remarkable things relative to bees that came under my notice during the now closing year. The honey season here was an exceptionally short one, beginning about June 1 and practically ending on the 26th. It was, however, very good for stocks up to full strength at the start of the honey-flow, but for backward colonies it has been a failure. My four best stocks were supered with a second story of standard frames, every alternate frame having a built-out comb, the others a full sheet of wired foundation. This was my first year of working for extracted honey, and I am well pleased with the result. Each brood-chamber had eleven frames, and the same number in super, which, in the four hives referred to, were filled and sealed from top to bottom, some of the combs weighing 6 lb. 1 oz. Nor did a swarm issue from any of these colonies. My other stocks—worked for section-honey—did not get through half the work done by the above, although their supers were largely composed of combed-sections kept over from the previous year. The skep has been almost a failure here this season; owners, as a rule, got no surplus honey, while those "taken up" would only average about 15 lb.

I am glad to be able to report no trace of foul brood in my apiary at present. I had one stock "bad" last spring, but when the season had advanced and honey began to come in, I again tried the "plan" that proved so successful the previous year. I took away the combs and reduced the stock to the condition of a swarm, setting them up on starters of foundation. About noon on the third day after this operation, however, the bees deserted their new home, coming out as a swarm, and, flying about 100 yards, attempted to join the strongest stock in my apiary.

A fierce fight went on for two days, and on the morning of the third day I found the

queen dead on the ground in front of the hive. Bee-keepers having experience of foul brood can form some idea of my anxiety for my best stock, so wantonly intruded upon by this infected lot; but when the season was over I examined it carefully, and could find no trace whatever of the disease. I did not have a single natural swarm from my eight stocks during the season.

Having got leave from a farmer to drive three stocks in skeps, I went to his place, set to work and drove the bees of the first lot very easily, but on taking the skep containing the honey indoors, I found it to be a very bad case of foul brood. I need hardly say this lot of bees were by my directions consigned to the sulphur-pit that night. The remaining two skeps contained fine healthy bees, which, after driving, were united, set up on ready-built combs, and made a fine stock. I nearly lost one colony in spring by robbing; but its after history will, perhaps, be of interest to your readers, as showing what may happen, through an accident, in the following way:—The day before the "robbing" commenced I examined the stock; finding it had plenty of stores and a nice lot of bees. Well, in order to tighten them up, I put some of the frames behind the dummy-board, and in going away left the roof insecure. My opening of the hive had attracted robbers, and owing to the carelessly fixed roof, they got in and cleared out the combs placed behind the dummy-board, and after that they made an attack at the entrance, and did the same, leaving the unfortunate occupants nothing to live on. After a hard fight, and greatly reduced in numbers, they left their hive as a swarm, and settled in a small tree some yards away. The little lot of bees when found were only about the size of an ordinary tumbler. I hived them, however, on two of their own combs, and set them on a stand about 100 yards distant from where their former hive stood. In a day or two the queen began to lay, and after a few days there was a couple of small patches of brood, and they progressed quite rapidly for so small a lot, so that when the extracting commenced, they did all the cleaning up of the wet combs for me. The troubles undergone by this lot of bees seem to have made them terribly vicious, so much so, that on one occasion I was forced to abandon an examination of their hive. The robbers, however, never found them in their new home.

I got first prize for six sections at our local show, held on September 9. The sections were glazed according to Mr. W. Woodley's plan, and were very much admired by bee-keepers and the public generally, several bee-keepers inquiring where I got the lace-paper, &c. I had also staged (not for competition) eighty 1-lb. in tie-over jars, with the Irish label, "Finest Irish Honey;" also some sections, glazed as above (in all about 100), which attracted the notice of visitors very much. A merchant bought the whole lot at a good price before the show was over, paying me 1s. each for the sections.

A very unusual thing came under my notice on October 20 last. In glancing round my apiary on the morning of that date I observed some large "cappings" at the entrance of one hive (such as is seen about April or May), and on going out again at noon I found a dozen young live drones, fully developed, on the ground in front of the hive. The day being fine and bright I watched for some time, expecting to see drones flying, but none appeared. What can the cause of this be?—M. K., *Piltown, co. Kilkenny, November.*

[Without the means of investigating it is impossible for us to give any reliable explanation of the above occurrence. The drones were, however, entirely abnormal, and were, no doubt, cast out by the bees as useless.—EDS.]

APOLOGIA PRO BACILLUS ALVEI.

[2283.] Dr. Bartrum (2269, p. 449) must really forgive me for insisting that I *have* kept to the point and he has not. My point was Dr. Bartrum's contention that "no one need fear foul brood who understands tolerably well how to manage a frame-hive." To that point I pin Dr. Bartrum. Taxation, uncultivated acres, and the like are not to the point at all, and it is puerile to talk of armies of inspectors, &c. Dr. B. will, I know, excuse me for speaking with "frankness and candour." We have offered to do the inspection of the county of Kent, including compensation, for £250 per annum or less, and have satisfied the Board of Agriculture that this estimate, which is over rather than under the mark, will annually decrease and ultimately cease altogether. The visit of the inspector, who must be a skilled expert, will carry with it much profit and instruction to bee-keepers. The expense is, therefore, legitimately chargeable to the account of Technical Education. The rateable value of property in Kent in 1891 was £4,369,901 and in round numbers five and a half million! Thus the cost of inspection per annum, including compensation, will not exceed one-twentieth part of a farthing in the £1. I hope Dr. Bartrum will no longer pile up the agony on so small a base as the twentieth of a farthing. It's too ridiculous. Besides, the expense will come out of a fixed sum already levied for the purposes of Technical Education, and in that case not cause any augmentation of existing taxation.

As to naphthaline and naphthol beta affording proper security against foul brood, Dr. Bartrum knows it does *not* ensure exemption. The impossibility of dealing with one man—who chooses to be obstinate—is the best possible proof that compulsory powers are a necessity.

The groundwork of the foul brood leaflet is already prepared—it will be issued early in

the spring of 1896, but it would be foolish to issue it now.

The letter from Mr. Jesse Garratt (2270), on the subject of the hives at Wake's Colne Rectory, is a marvel of euphemistic composition. In fact, our "Jesse" is a "master of euphemy," and has only to survive the present occupier of Hawarden to secure the Professorial Chair. Nevertheless, he is risking his reputation as a "bee-master" by the importation of combs into Kent from tainted colonies. Had I accompanied him in his passage across the river, I should have followed the notable example of that Most High and Mighty Prince, King James II., in the matter of the Great Seal, and as the jettison disappeared beneath the surface—of course, I mean the *combs*, not their carrier (for

"With all thy faults I love thee still,
And even Dr. B——"),

I say—as they disappeared beneath the flood—I should not have pronounced a blessing, but rather—well, to speak with "euphemy,"—I might possibly have uttered the ejaculatory, intensive, and abbreviated form of the verb "condemn," to which your readers had better give a guess than audible expression.—E. D. Till, *Eynsford, Kent, November* 8.

NOTANDA ET INQUIRENDA.

[2284] In the course of the three years during which I have now kept bees, entirely self-instructed, and having gradually increased my "holding" from one to nine hives as I gained experience and confidence, I have noted many points in bee management, and many queries and puzzles have from time to time suggested themselves to me. I have often thought I should like to ventilate them in the B.B.J.; and I now send a couple as samples to speak for themselves.

Wax Rendering.—This autumn, for the first time, I have had sufficient cappings, old and drone comb, broken combs, and odds and ends, to make wax rendering a serious business. After thinking the matter out, I had a saucepan, made of ordinary tin-plate, with lid, into which fitted closely a rim of the same material for about half its depth. Round the bottom of this rim, and inside it, a slight flange was soldered; so that from beneath a stout circular wire, carrying a fine meshed brass sieve, could be inserted, and firmly fixed by the use of some little force.

When the rim, thus fitted with the sieve, was inserted in the saucepan, and pushed down as far as a shoulder, overlapping the edge of the saucepan, would allow, the receptacle was divided into two halves. The lower I filled with the comb, pouring on enough water to rise well above the sieve into the upper division. On boiling carefully, the wax rose from beneath through the meshes of the sieve, and formed a cake above it, leaving the bulk of the impurities below on the underside of the sieve.

So far so good. But do what I would I could not get a cake free from all impurities on the under surface. I tried boiling and reboiling, with and without vinegar (I had no sulphuric acid at hand). I tried doubling the wire sieve with a tiffany strainer; and, through the interstices getting clogged, nearly blew up the whole concern, as the water in the portion under the strainers got converted into steam before that in the upper part boiled. This, by-the-bye, is a serious danger, which should not be overlooked in these operations. I tried remelting without the strainer; and the plaguy thing boiled over when my back was turned for a moment, lost me a lot of wax, and nearly set the place on fire. But this led me to a discovery which was well worth paying the price of all this experience for, and which I give for the benefit of others, having seen it nowhere stated in print. I only wish I had. Of course, I had essayed rubbing off the coating of impurities which collects on the under side of a cake, even when squeezed out through muslin; but always when it was *cold*. Now, by chance, I lifted the set cake out of the hot water while itself still *hot*, happened to begin rubbing, noted the ease with which the deposit came off, went to work with a will, and found all my difficulties vanished in a moment.

In short, if you scrub the cake while still hot, and in hot water, with any stiff-haired brush (a common wooden nail-brush answers very well), every particle of scum is removed as if by magic, and your cake of wax comes out as clean on the under side as on the surface, although, of course, it will not be smooth and bright, but pitted and dull. You will lose no wax in the operation; and, for me at least, the terrors of wax rendering are gone. One melting, letting the wax rise through the sieve, and then rubbing while the cake is still hot will suffice.

I will only add that I think vinegar spoils the colour, and I mean to try sulphuric acid next year.

Shading Hives.—Can any one tell me of a simple, inexpensive, and removable means of shading hives? Mine stand on my lawn, with south aspect, a shrubbery at the back (north), and a garden wall on the east. The bees get nearly all possible sunshine during winter, and thrive accordingly, but in summer they have too much of a good thing. Do what I will in the way of heaping on supers, using swarm-catchers, &c., &c., they *will* swarm; when my neighbours' are perhaps as quiet as lambs. I am very anxious to find some easy way of shading the hives and alighting boards. As I have eight single and a "Wells" in a semi-circle, even 1s. each mounts up; so I want a cheap device.

Last summer, two magnificent swarms, after being hived, came out next morning, flew away, and were lost, it being Sunday; the

cause, I believe, was the extreme heat. As I live in the open country, I nearly always lose the swarms, and I am persuaded that shading the hives, *when necessary*, would abate the swarming fever.—SELF TAUGHT, *November* 8.

ANOTHER "SUGGESTION."

[2285.] Will you do me the favour to publish my suggestion (2279, p. 453) again this week—*i.e.*, repeat it—for some do not always see a request, and by repeating it many are reminded?

I think I have secured five new subscribers. I hope others of your readers will have done better than this. If a hundred of us can accomplish five apiece we shall have finished the task, or rather the treat I call it, which we proposed to ourselves.—E. D. TILL, *Eynsford, November* 11.

[Not without some qualms of conscience do we comply with the well-meant suggestion conveyed in the above, even in the modified form of quoting page whereon the communication appears, instead of reprinting the whole. Our esteemed correspondent's unselfish enthusiasm is so undoubted, and, moreover, he so persistently works *himself* at any proposal emanating *from* himself, that one cannot but wish him success in his various busy projects for the good of bee-keeping. Having said this much—and while thanking Mr. Till for his generous views concerning ourselves—we now ask his acceptance of *our* "suggestion," saying with Falstaff, "Hal, an thou lovest me" (and adding) kindly forbear sending "repeat orders for the above, even as an advertisement." Seriously, though, if but a few hundreds like our correspondent could be found, how bee-keeping (and the B.J.) would "get on!"—EDS.]

"BREAD UPON THE WATERS."

[2286.]—We cast our "bread upon the waters" by forwarding you from Barcelona, per parcel post, a small packet containing three 1-lb. pots of honey. You will kindly let your correspondent, "A. Beille," have a taste of it; also put us in correspondence with some house willing to handle a few cwt., if not this year, the next, and so on. No harm will come of it—we are so little, you know, that one can hardly find the place on the map.

I also send a few seeds of our sainfoin, *Hedysarum coronarium*, which we think unrivalled for honey and fodder, though, for all I know, you may have a better kind. I believe the rule is to sow without covering—the sun and rain will do the rest. If too thick, transplant when a foot high in November, December, January, &c. It is not an annual, but does better the second and third year. I would thank A. Beille to tell us how our sainfoin honey compares with his.

In managing our hives, I think we have some advantage over you, viz., that of wintering without previous feeding-up in the fall. All our fine winter days the bees forage on wild flowers, and manage to pick up a little nectar for brood-rearing on a small scale. In January and February they just revel on almond blossoms, winds and rains permitting. All sorts of fruit blossoms in March, of course.

Our honey-flow begins in April, swarming also. We don't make much of honey collected during summer and autumn, which is inferior, often letting the bees keep it for us over winter. Last year we didn't extract a drop. Those big square combs come in so handy when a weak stock or an early swarm want a helping hand, so our crop is mainly spring count. I suppose this proceeding is not very correct, but it saves trouble both in feeding-up and in spring dwindling. Stocks keep pretty strong. And may it not save some of the white spring honey?

In one of our small apiaries in the interior we had quite a flow of heather honey last autumn. The result was my son had to take it out this spring to make room for sainfoin. Pretty hard extracting, too. We took out a couple of hundred weight from eighteen hives.

Last June we received a swarm of Italians from Madame Chinni. They were almost used up by the long voyage, and by the hot weather of our southern clime, as they came in one of those old-fashioned hives which I presume date from ever so far back. They are made of a hollow trunk some 3 ft. high, with half-a-dozen inch-holes bored in the centre or upper part. The gentle fellows were so attenuated on arriving that we dared not transfer them. I even fastened a strip of excluder-zinc over the two or three holes left open, to keep out robbers, for we had to feed them.

Where Virgil speaks of the castle or fortress from which the bees hurl down that vile *canaille* the drones, don't you think he refers to these very turret-like hives?

After the pretty fellows got reinforced through borrowed brood and stimulation, they picked up wonderfully, all the entrances being wide open. Soon after, some of our death's-head moths paid them a visit, and I noticed that in coming out they stuck fast in those same round holes. The bees soon undertook to put out their carcases, and they worked so hard that they even drove the strip of excluder a little one side, causing it to bulge. How do you suppose they go to work to do so? Through a strong push and a push altogether, I think?—Yours fraternally, EDITOR "REVISTA APICOLA," *Mahon, Minorca, Spain, October* 19.

[Samples of honey referred to arrived a few days ago in good condition. The honey is very nice, but has a much stronger flavour, and is higher coloured than our sainfoin honey. *Hedysarum coronarium*, or *sulla*, is cultivated

in English gardens, and is known popularly by the name of French honeysuckle. Owing probably to the richness of the soil, it attains to more vigorous dimensions here, and the seed is larger than that sent from Minorca. The plant blooms profusely, and is constantly visited by bees. It is not cultivated here like sainfoin, our climate not being suitable for it. *Hedysarum coronarium* and *Onotrychis sativa* (sainfoin) both belong to the order *Leguminosæ*. To make sure of the seed germinating we have found it expedient to place it in boiling water for five minutes before sowing. This is the plan adopted in Algeria, and it is found that the germination of the seed is not only more rapid, but a larger proportion of it grows than if sown in the ordinary way.—EDS]

QUOTATIONS.

[2287.] We are all indebted to your correspondent, "O. Y." (2277, p. 453), for introducing some literary fun into the columns of the B.B.J., and I have to thank him for a pleasant hour spent by a book-loving friend and myself in answering the queries which he has put respecting two quotations which appear in your pages. Mr. Scattergood's lines—

> "A man convinced against his will
> Is of the same opinion still"—

Are an approximation to a passage in Butler's "Hudibras," which runs thus in the edition from which I quote :—

> "He that complies against his will
> Is of the same opinion still."

"O. Y." then inquires of me whether A. Bielle's quotation—

> "Who, when his legs were smitten off,
> He fought upon his stumps"—

is correct, and who is the hero in question? His reference to "B. Short" (should he not have said "Tommy Short" formerly Fellow of Trinity College, Oxford?) seems to indicate that he hails from that renowned University, and if so, no doubt he has a *Spectator*, which, in my time, was *the* book for turning good English into bad Latin! In No. 74 he will find an allusion by "C" (Addison) to his hero Witherington, and the edition before me gives the following passage "as it stands in the original ballad" (foot note) :—

> "For Wetharryngton my harte is wo,
> That ever he slayne shulde be;
> For when both his legges wear hewyne in to,
> Yet he knyl'd and fought on hys kne."

It is evident from this passage that these early ballads may differ not a little in their renderings, and three editions of "Chevy Chase" before me, each give a different version. One of these runs thus :—

> "For Witherington needs must I wayle,
> As one in doleful dumps;
> For when his leggs were smitten off,
> He fought upon his stumpes."

In "Hudibras," Witherington becomes Widdrington :—

> "As Widdrington in doleful dumps
> Is said to fight upon his stumps."

If "O. Y." desires to investigate the subject respecting which he has asked for information, he might consult Professor Skeat's "Specimens of English Literature," published at the Clarendon Press, or Dr. Furnivall's "Percy's Ballads."—E. BARTRUM, D.D., *Wakes Colne Rectory, Essex.*

[Another correspondent signing "Mouche-à-Miel" also sends correct quotations on above. He also adds :—

"The Witheringtons were an old family who, from the reign of Edward I., lived at Widdrington Castle, about four miles south-west of Felton.

"In 1643 Sir William Widdrington was created baron, and was slain soon afterwards at Wigan, and in the year 1715 the estate was forfeited by his grandson."—EDS.]

ABOUT OUR BEES.

[Owing to the hurried work of preparation connected with the presentation to the Lady Mayoress last week, we regret to find that the right-hand column of Mr. Brice's article on page 454 was inadvertently sent to press without having been "read," and that several errors occurred in consequence. We, therefore, have thought it best to reprint the whole of the column referred to, beginning at the fifth line from top of page.—EDS]

The honey-bee (along with wasps, ants, &c.) is found in the class Insecta; order, Hymenoptera; family, Apidæ; genus, Apis; species, Mellifica. Of the above order there are 3,000 representatives in Britain, and—approximately—36,000 in the whole world (Kirby). This order of insects is, therefore, one of the largest in Britain, being about equalled in numbers by those of Coleoptera (beetles) and Diptera (flies), although only one species of the genus Apis is indigenous to Britain—viz., Mellifica. Apis Mellifica, in common with most of its class, is provided with one pair of antennæ and six legs in the perfect state; the body is divided into three parts—viz., the head, thorax, and abdomen, and these being again sub-divided. All insects of this order have two pairs of wings, and before reaching maturity the bee passes through four separate stages of existence—viz, that of the egg, larva, pupa, and imago stage. The word apidæ is given to this family on account of their feeding the young

in a large measure on pollen, or pollen and honey mixed.

They are provided with two large eyes—one on each side of the head—composed of facets to the extent of many thousands. There are also three simple eyes termed ocelli, placed near the top of the head, but so far I can find no certain or reliable data on which to base an opinion as to the respective uses of these separate organs. The nervous system is composed of a double chain of ganglia, extending from the head to the extremity of the body, the fibres reaching to all parts of the entire structure.

The antennæ are credited with being the seat of the organs of hearing, touch, and smell. The formation of the mouth embraces jointed organs termed labial and maxillary palpi, with the mandibles, proboscis, and tongue, or ligula. The abdomen is made up of six segments or rings in the queen and worker, and seven in the drone, gradually diminishing in size towards the point or end. The upper or back plates being known as the dorsal, whilst those of the under side of the abdomen are termed ventral plates. Space precludes my entering upon the internal anatomy of the bee, but readers will find full and interesting details in Mr. Cowan's work referred to above. The sting is, perhaps, too well known to require minute description now, but regarding this I consider it a mistake to look upon this organ as given to the bee merely as a means of defence. The sting has other important and undoubted functions beyond that mentioned. Bees breathe by means of spiracles—openings ranged along each side of the body, the worker having seven pairs, queens the same number, while the drone has eight pairs.

(II.)

PHYSIOLOGICAL.

Among ancient writers, Aristotle, Virgil, Pliny, and others were well acquainted with the fact that a colony of bees consisted of several different kinds of the same insects, each having form, structure, habits, and functions of its own; not, however, till the beginning of the eighteenth century was there anything like certain knowledge as to the offices performed by the several inhabitants of the hive: Some old authorities supposed the colony to be governed by a "king," while others imagined that a fourth kind of the same insect dwelt in the hive. Kirby speaks of this last as "an insect blacker than a worker." Von Berlepsch, however, proved this "black insect" to be nothing more than an old worker-bee, and, as time went on, Dr. Warder clearly demonstrated, in 1716, that the "king" was in fact the "mother" bee of the hive or colony.

We, therefore, find that during the summer season there are three kinds of bees in a normal colony, viz., the queen, or mother bee; the workers (undeveloped females); and the drones, or male bees. The last-named are driven forth from the hive at the close of the honey season, and—save under exceptional circumstances—never permitted to live over winter.

The discovery referred to regarding the mother-bee caused considerable divergence of opinion as to the functions performed by the latter, most extravagant notions and curious theories being set up to account for the fertilisation of the eggs produced by the queen bee. Then in the year 1842 came Dzierzon's important announcement, declaring that "all eggs that come to maturity in the two ovaries of the queen bee are only of one and the same kind, which, when they are laid without fertilisation, become male bees; but, on the contrary, when fertilised, produce female bees" (*vide* Siebold, on the "Parthenogenesis in the Honey Bee," 1853). In 1849 Dzierzon went still further by declaring that "it was necessary for a queen to mate outside the hive." Eventually, in 1853, the famous German bee-master was enabled to set this much-debated question at rest by the introduction of the Italian bee. His theory was, however, the subject of searching investigation at the time, and, as we know now, its correctness was abundantly verified.

THE WORKER-BEE.

The whole of the labour involved in the management of the hive is borne by the worker bees, of which there are usually from 20,000 to 50,000 in a colony. Almost as soon as the newly-hatched worker comes forth a perfect insect, it begins its labours by feeding and attending to those of the hive's future inhabitants as are in the larval stage, and ere many more days have passed we find them busily occupied either as fully-fledged field-workers bringing home honey and pollen; or as comb-builders and general labourers of the community.

Among the many and various offices performed by the worker-bee may be enumerated: guarding the entrance against intruders, feeding the queen, storing honey and pollen in their various cells, cleaning floor boards, removing used cappings, dust, rubbish, &c., about which I shall have more to say anon. With so much work to do and so little time to do it in, can we wonder that a worker-bee—whose lot is cast at a time when work is busiest—will wear itself out and die of old age, as it were, within so short a space of time as six weeks! On the other hand, bees born in the fall of the year, when little or no work is done will live for months—indeed all through the winter and well on into the following spring—thus, by a wise provision of nature, enabling younger bees to come into existence, and so preserve the continuity of the colony and carry on the labours of the hive.

One of the most important organs possessed by the bee is the sting, and regarding this, it has been claimed by some writers that the sting has uses quite apart from its purpose as a weapon of defence, one whom I have in mind

even going so far as endeavouring to prove its use as an ovipositor. Now, while admitting its undoubted use for purposes other than those of defence, we must avoid being ourselves misled in ascribing to it uncertain properties, without the very strongest evidence that such exist.

LAYING WORKERS.

The worker-bee, though classified as "an undeveloped female," is very rarely found to take upon itself maternal duties. The exception occurring in colonies long queenless. Even in these cases, however, it does not by any means follow that in every hive will appear the rarities known as "laying-workers." The tendency to develop these troublesome pests to the bee-keeper is found with far greater frequency in bees possessing Italian, Cyprian, or Syrian blood than with the ordinary native or black bee, the difference being so widely marked that, while a colony of "blacks" seldom produces a laying-worker, as many as six or eight will be found in a single colony of the former varieties. Eggs laid by these abnormal worker-bees produce drones only, consequent on imperfect development and the physical impossibility of their ever becoming fertilized or "mated."

THE DRONE.

I am not at all disposed to agree with Shakespeare's definition, "The lazy, yawning drone," as a correct description of the male bee. "Loud-mouthed drone" would be more to the bee-man's view, for there is no mistaking the sound — almost approaching a "roar"—made by the burly drone when on the wing about noon on a bright day in midsummer. Drones, then, are the males of the hive, and usually make their first yearly appearance therein between the months of April and May. Here they remain until the end of the honey harvest, when, as a rule, they are destroyed by the workers. The drone is more bulky than the queen, and considerably larger than the worker. Its appearance, however, belies it, for while compared with the other inhabitants of a hive, most formidable and certainly the noisiest, it is, in fact, perfectly harmless, having no sting or means of defence or attack whatever. Their primary purpose and use so far as has been discovered, is that of continuing their race. The life of the drone may be aptly summed up as "short and merry" living on the best the hive affords; rarely seen outside save on warm sunny days and then only for a hour or so about mid-day. The very name "drone," popularly symbolises "laziness," or is at all events synonymous with uselessness.

Whether this character is not undeserved we, however, take leave to doubt. Knowing as we do that the drone is created to fulfil a distinct and necessary purpose, is it unreasonable to assume that its apparent inertitude is an essential concomitant to that end? Bearing in mind, too, the special office of the insect is fulfilled at the cost of its life, we should not be "quite too hard" on the, by some, despised drone. Time was when among our bee-keeping forefathers the appearance of the first drone of the season was an occasion for a little merry-making in honour of the event. Nor does the bee-man of to-day fail to welcome the *début* of the early drone which foretells the "early swarm."—H. W. BRICE, *Thornton Heath.*

(*To be continued.*)

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

E. W. (Boston).—*Melting Sections of Granulated Honey.*—The comb, when sliced up, is put into an earthenware vessel, the latter then being placed in a pan large enough to hold it when surrounded by about a quart of water. A couple of small sticks ½ in. square are first set in pan—to keep the honey vessel raised from the bottom—and the pan is then partly filled with cold water and the whole placed in an oven or on a stove. Heat the water to near boiling point, and when the honey is thoroughly melted remove from fire. When cold, the wax may be lifted off in a solid cake.

J. COWAN (Carnforth).—*Bee-Candy.*—Judging by its general appearance, taste, smell, colour, and texture, the candy sent is not at all suitable for bee-food. We should be glad to know the exact ingredients of which it is composed, together with the process of manufacture. To us it resembles badly-made "butter-scotch" or "hard-bake" in which some kind of dripping or fat was substituted for butter. How it got the pale yellow colour we cannot say.

R. G. (Renfrew).—*Dealing with Unfinished Sections.*—The trouble in "letting them remain as they are" arises from the difficulty in preventing granulation of the honey in them. At this date, too, bees will seldom carry down the contents if the sections are placed above the brood-nest. We should, therefore, either put the unfinished sections through the extractor or leave them on the hive for completion next season, risking granulation in the meantime.

MAUD (Epsom).—If the bees have not less than 15 lb. of food now in the hive, and a 2-lb. cake of soft candy be given, they will be quite safe so far as stores till next spring. Leave the two quilts now on the top of frames, and add some warm material above; but there is no need to "fill the top of the hive with carpet," as proposed.

INQUIRER (Warminster).—*Placing Bees near Brick-kilns.*—So far as damage to bees, placed 100 yards away from a brick-kiln, we do not think any harm would follow. It is, however, quite different with fruit-trees placed at that distance, and we can well understand the fumes from a permanent kiln "spoiling" these.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The usual monthly meeting of the Council was held at 105, Jermyn-street, on Thursday, November 12. Present :—T. W. Cowan (in the chair), H. Jonas (vice-chairman), the Hon. and Rev. H. Bligh, Messrs. R. Andrews, H. W. Brice, W. Broughton Carr, J. Garratt, C. Hooper, J. H. New, W. J. Sheppard, and E. D. Till; with J. M. Hooker, ex-officio representative.

The minutes of the last meeting of the Council were read and confirmed.

Letters were read from Messrs. Glennie, Harris, Martin, and P. Scattergood, jun., regretting their inability to be present. Several letters were also received expressing sympathy with the Council in the death of their late secretary, whose loss was referred to by the Chairman, who moved that the deep sympathy of the Council be conveyed to Mrs. Huckle. Carried *nem. con.*

A resolution was next carried appointing Messrs. Harris, Till, and Carr as a committee, along with the chairman and vice-chairman, to consider the terms and duties connected with the appointment of a new secretary; meantime a secretary was appointed *pro tem.*

The Finance Committee's report included a recommendation for the payment of several accounts, and was agreed to.

Letters were read from Captain Campbell and Mr. R. A. Grimshaw having reference to the non-payment of affiliation fees by the Surrey B.K.A. and the Yorkshire B.K.A. respectively, the letters being dealt with in accordance with the established rule.

The Exhibitions Committee submitted the revised schedule of prizes for the Royal Agricultural Society's Show, to be held at Leicester in June next, the same being approved and adopted.

The Exhibitions Committee also reported that negotiations had taken place with the Bath and West of England Agricultural Society having reference to the show at St. Albans in 1896; and a local committee having undertaken to raise a sum of £40 in the district, a further sum of £10 was granted by the B. & W. Society, to cover the cost of a bee tent and manipulations therein. After some discussion it was proposed and carried that the Council undertake the management of the bee department on the terms proposed. The committee submitted a draft schedule for the show in question, which was approved by the Council. It was also resolved that the same committee be asked to draft an application to be forwarded to several of the City Guilds and also to the Lord Mayor asking for special prizes at the St. Albans Show.

After dealing with correspondence referring to a proposal for conferring certificates of the B.B.K.A. upon prize-winners at "Royal" shows, and some minor matters, the chairman reported that he had had an interview with the secretary of the Board of Agriculture on the subject of the leaflet on foul brood to be issued by the Board when ready for printing; the matter was advanced a stage further and the leaflet will probably be issued in the coming spring.

The chairman also reported that replies had been received from nearly all the County Councils applied to on the subject of appointing delegates to confer with the Council of the B.B.K.A. on the subject of foul brood among bees. It was finally resolved that the necessary preparations be made, and invitations issued for a conference—on the lines indicated—to be held at 105, Jermyn-street on Friday, December 13 next, at 4 p.m.

After some further routine business had been transacted, the Council adjourned till December 13, when a preliminary meeting to the one mentioned above will be held at 17, King William-street, W.C., at 12 o'clock.

The following new members were elected:—Mr. Wm. C. Young, Sec. Dairy Farmers' Association, 12, Hanover-square, London; F. Mansell, Esq., Derwent Lodge, Isleworth.

It is requested that, until further notice, all communications intended for the late secretary, be addressed "The Chairman, British Bee-Keepers' Association, 17, King William-street, Strand, W.C."

THE LATE MR. JOHN HUCKLE.

We have received numerous letters of condolence with, and sympathy for, the widow and family of the late Mr. Huckle in their sad bereavement. The testimony of bee-keepers seems also to be entirely unanimous as to the loss the pursuit has sustained in the death of the late secretary of the B.B.K.A., and the difficulty of replacing him by any one who will succeed in securing so large an amount of personal regard on all hands.

SURREY BEE-KEEPERS' ASSOCIATION.

The first meeting of the Provisional Committee was held at Guildford on the 16th inst., Mr. E. Daw presiding, at which information having been given that the affairs of the old association had been entirely wound up, it was decided to form a new association, for the management of which a strong committee of gentlemen interested in bee-keeping, and residing in every part of the county, was appointed.

A report to the Surrey County Council was drawn up explaining the steps that had been taken for the establishment of the association

and asking for financial support; and a circular, to be issued immediately to every known bee-keeper in the county, was also agreed to. The committee includes, among others, such well-known supporters of bee-keeping in Surrey as Messrs. E. Daw, Arch. Seth Smith, Blundell, White Reid, and Captain C. D. Campbell; and Mr. J. W. Jacomb Hood, of Surbiton, will act as honorary secretary *pro tem.*

The prospects of establishing the association on a sound and lasting basis are most promising.

HELPING NATIVE HONEY.

A correspondent informs us that the notice in the *Times* of the recent gift of honey to the Lady Mayoress has been copied right and left into daily and weekly journals all over the land, and he hopes with good effect. It would be well, he adds, for all bee-keepers to keep in mind the *three* points of the address at the London Mansion House, viz. :—

1. Cultivating a taste and demand for native honey.
2. Exposure of adulteration.
3. Advantage of municipal prizes at our honey shows.

He urges that this programme should be extended to the provinces, and suggests that the lady who presides over the hospitalities of each provincial municipality should be afforded the opportunity of tasting really fine native honey, and at the same time be acquainted with the *three points* which should be explained to all those who are most likely to promote our special object. He further remarks that if even the *one* point as to encouraging honey production by the offering of municipal prizes at provincial shows be advanced by one zealous apiarist in each county, much good must result next season. He concludes by saying that "Now" is the time to do it, in which opinion we most fully concur.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[2288.] The tempestuous weather of last week has been followed by a calm sunny day or two, and the apiary has resounded with the merry hum of the bees. Nasturtiums and other self-sown seeds have sprouted and made considerable growth, "buttercups" and daisies, too, putting forth here and there a blossom during the past month of mild weather. In the fields the "clover-root" has established itself well, and by deeper rootlets will, no doubt, endure a greater degree of frost without injury. Trifolium also — of which plant more than the usual acreage is being grown here about—is looking well, and promising early bee-forage for 1896. Then another good bee-plant, vetches, is making a good show. All this tends to show that, unless a long and severe winter follows, we may count on a good breadth of forage for bees in the coming spring.

The long evenings now before us will give ample time for those bee-keepers who make their own appliances to construct hives, section racks, super clearers, &c., to suit their own tastes. To such as care for my advice, I would say don't use any size frame except the British standard. Make your hives as simple as possible, and if you hope to continue bee-keeping employ only the best material, which proves cheapest in years to come. The "Cowan" hive I consider a very good one; so, also, is the "Combination" (Abbott's pattern) hive. In the latter the frames are parallel with the entrance, but in the "Cowan" the frames can be either parallel or at right angles, to suit the fancy of the bee-keeper. Regarding the way the combs hang, so far as the well-being of the bees, I have failed to notice any appreciable difference, though I have had colonies by the score in hives of both styles; but, I may add, all my recently-made ones have frames in the parallel position, as I consider it gives greater facilities in manipulating. The bee-keeper working a large apiary tacked on to another business which engages a considerable part of his time, must, of course, at times conduct apiary operations very differently to the methods read of in books, where we are told to "blow in a little smoke at the entrance of the hive and then allow the bees time to gorge themselves with honey." Why, in the busy time I should want the hive attended to and the next one in hand before the time for "gorging" had expired. This causes my predeliction for the combination hive. One great advantage of the "Cowan" hive is that the brood chamber proper can be removed for purifying in the family wash-pot if suspected of harbouring the germs of foul-brood, but the "Combination" hive is too big for this method of cleansing, though the spread of knowledge warrants us in saying that boiling hives will not for long be recommended as any security against *bacillus alvei*.

I would counsel beginners to make their section-racks to hold 21 1-lb. sections, having the sides the same height as the sections, so that when tiered up on the hive the sides of the rack bear the weight of the full sections. Don't bother with end or side passages; your sections will not be filled any better for having a passage round them, while, if left on the hives,

the wood of sections will be stained oftentimes beyond removal. When making racks, nail on a little strip of wood 4 or 5 in. long by ½ in. thick, about 1 in. from the top of each side near the centre of sides, to form useful handles for lifting by. I consider a handle of some kind most helpful in handling full racks of sections.

Leaking hive-roofs can be avoided at small extra cost if the roof is made of a rather thinner material, and the same covered with thin sheet zinc; this is far superior to wood only, and even old roofs can be rendered equal to new ones by using zinc as a covering.—W. WOODLEY, *Beedon, Newbury.*

HOUSE APIARIES.

THEIR USE AND ADVANTAGES TO BEE FARMERS.

[2289.] Considering the many advantages (which I hope to prove) of house apiaries, it seems strange that they are so seldom in evidence in the B.B.J. Is it because they have received so little attention that they are still few and far between? Or are they considered too costly to build?

In the development of modern apiculture, although house apiaries have been discussed a time or two, they have to my mind not received a tithe of the attention which is their due. Hives, swarm-catchers, all sorts of appliances, foul brood, wintering bees, &c., have ever been to the front, why not house apiaries and honey rooms? Are these unimportant? Surely there are bee-keepers who, like myself, consider them first and best. The question naturally of many will be:—"What is a modern house apiary?" Well, with your permission, I will do my best to explain:—

The one I have now in use is a lean-to house facing west (for convenience). It is 22 ft. long, 5 ft. high in front, 8 ft. at back, and 5 ft. wide. It stands upon a concrete foundation, with a course of bricks for the wall-plate to rest on. The south end has a door, and the walls at end and front are double match-board, with 3 in. space packed with sawdust; and entrances to hives near the ground, and full width of hive.

The house has a stone wall at back, nicely plastered. The floor is of concrete, and the roofing is of match-boards inside, common tiles outside, and sawdust between. Tiles all pointed, to keep out rain and driving snow. The house will accommodate thirteen hives, all of which were previously used outside as "Cowan" hives. A strip of wood is nailed through the match-board into the wall-plate, and a piece of scantling used for the back, and on these each floor-board is placed (mine are 1¼ in. thick, of pitch pine, with two strips of wood nailed to the under side to prevent warping), and the hive rests on this solid foundation, with a 3-in. space between the floor-board and floor. In the centre of the front is the window, with space under the bottom glass for the bees to escape, and perforated zinc outside, 6 in. deep. The house communicates with the honey-room at the north end, where all extracting, &c., is done. And this room, 22 ft. by 8 ft., is double-walled two ways, and packed with sawdust, with two windows and a west door.

The advantages I claim are that inside it is always dry, never cold or hot, compact, saves stings during manipulation, better wintering, and smaller quantity of stores consumed than in hives outside; nothing more than simple boxes, floor-boards, and quilts required; economy in time, as at any time during spring and summer, sunshine or shower, work of all kinds can go on. I may add, too, that with proper management there is no swarming. During the two seasons that I have worked this house there has been no sign of swarming, with hives crowded to their utmost capacity. Therefore, no need of swarm-catchers, or anxious watching. Consider also the great advantage of covered apiaries in such weather as we had on March 24 last. Most of my hives outside, although well sheltered, had their roofs and quilts blown all over the orchard, and some of the hives were blown completely over, while inside the house everything was snug and comfortable, and all hives were undisturbed as usual.

My best stocks under cover gave me this season about 90 lb. of honey in shallow-frames, and in every hive I have left enough stores to last till next spring without feeding.

I have never interfered with a queen, nor had occasion to introduce one, and all the bees are natives.

While on this point allow me to instance, by way of comparison, the results from two hives, both outside:—No. 1 has a last year's queen, and I naturally expected a good yield of honey in shallow-frames; but no, not an ounce have I had from it during the whole season. No. 2 has a queen the age of which I have no idea, and yet, after tea one evening in July, I removed three crates of shallow-frames, nine in each crate, and averaging 3 lb. of honey each. Another crate was filled and removed later on, as our season was practically at an end before the end of July.

But to return for a moment to house apiaries, what can be said against them? Are they too costly? I think not in the long run, and for the following reasons:—No roofing is required for the hives; no legs, no outer cases, and no paint; nor is so much covering required in the way of quilts, as I use the same all the year round. Then, if the bee-keeper builds his own house, and only employs a bricklayer for the foundation, floor, and, may-be, the outer covering, the main expense is the wood. All things considered, the covered apiary will be found the cheapest. It may be said that in working with long, covered apiaries there is really great risk of

losing young queens, but where there are no swarms there can be no loss of young queens. In any case, all alighting boards should be painted in different colours. I have not lost a queen, nor do I think it probable that I shall in the future.

I am just now planning a honey room, &c., intended to be 40 ft. long, together with a covered apiary for fifty hives. It will have a span roof, be 8 ft. wide, half the hives facing east, half west, and a passage right up between the two rows. One or two things I do not feel quite decided about, and will be very pleased if some of our brother bee-keepers who have experimented with covered apiaries will give the result of their experience:—First, as to the best kind of roofing for keeping out rain, snow, cold, and heat; and, secondly, as to packing or no packing between double walls.

All through the summer the temperature in my house varies but very little, and the boards never felt warm as compared with the atmosphere outside. I would especially like to know if any one has tried the air-space simply without packing and with what result? If there is no advantage in filling the 3-in. space with sawdust or other material, it means a great saving of labour and expense. I venture to hope that some of our veteran bee-keepers will shed the light of their experience upon this subject of house apiaries, as I feel sure our editors will rejoice in any and every advance that can be made in the successful working of modern bee-farms.—Norfolk Dumpling, *Methwold, November* 11, 1895.

[The importance of ventilating the above subject—to one about to venture so largely in bee-farming—is so obvious that, in the general interest, we cordially endorse our correspondent's invitation to those whose opinions are of value on the subject. We need hardly say how much the expression of their views will be welcomed in our pages. Personally, however, we have no hesitation in saying that, so far as this country is concerned, the filling-in of the 3-inch space between the walls of the bee-house described would be simply throwing labour and money away, as the air-space will answer every purpose intended.—Eds.]

FOUL BROOD.

AN EXPERT'S EXPERIENCE.

[2290.] Since reading Dr. Bartrum's letter on the above subject and its connection with legislative interference—on page 430 of B.J. for the 24th ult.—I have thought how vast is the difference between his experience and my own, and have sincerely wished that I could treat the pest as lightly as he does. Dr. Bartrum avers that when affected combs are burnt, and naphthaline put in hives, the trouble is over. Well, I can certainly say that naphthaline is good as a disinfectant or preventive of the disease, but experience has taught me that foul brood will sometimes break out in hives where naphthaline has been placed. Our Association provides me with it, and, on examining the stocks of members, I drop a piece in each—a very easy way of keeping away the pest if effectual, but, as I have said, it cannot be relied on in all cases, according to my experience. I am aware that foul brood can be cured, but some will not take the pains or trouble to cure it, and their bees, in consequence, spread the disease in all directions.

Our Association covers an area of about forty miles square; in three districts only are we troubled with the disease, and in each of them the negligence of some and the ignorance of others is the sole cause of its spreading. Four years ago only one apiary was affected in the area referred to; the owner, however (a cottager), refused to believe his bees diseased, and we had no power to compel either treatment or destruction. This year about ten bee-keepers in the same district had more or less of foul brood among their bees. Some of these we have succeeded in curing, but they are, of course, quite likely to contract the disease again from the same source.

In another district the infection came through buying bees from a non-member, whose stocks we got permission afterwards to examine, only to find our suspicions fully confirmed. We could not, however, prevail upon the seller of the diseased bees to allow the destruction of the foul-broody stocks, though a cottager member had not long started bee-keeping in the adjoining garden, and whose case is so specially hard that I will conclude my already too long letter by mentioning the particulars of it. Here was a man earning only 15s. per week, and who out of this small sum had saved sufficient wherewith to buy bees and hives, hoping to add something to his income from them, and yet when I examined his bees this last autumn, I found them diseased, and his hopes frustrated in consequence. And this, I may say, entirely through the obstinacy—or worse—of a comparatively well-to-do neighbour. I could go on repeating well-authenticated cases within my own knowledge if space allowed, but hope I have said enough to show that compulsory powers are needed to make obstinate bee-keepers either "kill or cure." When such powers are obtained, we may—and I hope will—exterminate the pest, but not till then.—J. Martin, Expert, Bristol B.K.A.

THE FOUL BROOD CONTROVERSY.

[2291.] It is surely time that this discussion should close. The subject must go to a higher court, and possibly a more impartial tribunal. But the discussion has brought out these facts: 1. That we are to have a leaflet on foul brood next spring. This is a great point gained. 2. That some do not regard foul

brood as seriously as our Eynsford friend, Mr. Till. 3. That there is a proposal for each county to contribute a certain sum apparently out of the Technical Instruction Funds, for the suppression of foul brood, for the payment of experts, and for compensation. Mr. Till considers that £250 per annum will meet the wants of Kent, and that soon the happy time will come when there will be no foul brood, and no special foul-brood experts needed! Similar sanguine hopes were no doubt entertained when the swine-fever regulations, with their compensation clauses, were introduced, when county and district councils, too, were established. Now for two facts. The highway rate around here has just been *doubled*, and a fortnight ago, in one district alone of this unhappy county, 788 swine were massacred to "stamp out infection."

May not similar failure attend the attempt to "stamp out" foul brood? So I pray you, Mr. Till, lessen your expectations, and soften your language. If the expenses of this new experiment are to be paid out of the Technical Instruction Funds, as chairman of a Technical Instruction Committee, and deeply interested in the subject, I think I may promise you that your proposals (if they ever become law) will be thoroughly sifted before they are accepted in Essex, and that the question will arise whether the £250 to £500 per annum which his county would probably require, might not be spent with greater advantage to our community.—E. Bartrum, D.D., *Wakes Colne Rectory, Essex, November* 16.

[We quite agree with Dr. Bartrum that—unless some new light can be brought to bear upon it directly connected with bee-keeping—the above discussion might now with advantage be closed.—Eds.]

"NOTANDA ET INQUIRENDA."

[2292.] *Stings.*—These are a serious matter to some people, myself included, and I have often thought that it is rather a mistake to make too light of them, as is constantly done in print. No doubt some constitutions are not so susceptible to them as others; many become used to them, indurated or inoculated with the subtle poison, so that it loses its virulence; while there are evidently bees of very different tempers, and, I strongly suspect, of somewhat different stinging powers. But, to the ordinary run of mortals, an average bee-sting is no joke. It means more or less discomfort, inconvenience, and frequently actual pain, feverishness, and disablement for some three days. To those, like myself, busily engaged in public duties, to have to go about for three days with a head and face disfigured beyond bearing, or a hand and arm swollen up to the shoulder, and almost useless, from even a single bee-sting, is simply out of the question, and I can well understand that in sensitive, predisposed subjects a sting might possibly bring on erysipelas, or some similar skin trouble.

Contrary, perhaps, to the usual course of procedure, I began bee-keeping bravely enough and manipulated my first stock, a swarm, gloveless and sometimes veil-less, until "taking" time. Then, having to do with a pure black bee, irascible, unusually large, and powerful in proportion, finding even methyl salicylate a snare and a delusion, after suffering severely, I at last gave up, and now rarely touch a hive except double-gloved, much to my regret and inconvenience.

But I have lately made this discovery—and herein is the point of this note—that if, whenever stung, you at once extract the sting, then bite the place as hard as you can bear, and suck strongly, you will obviate all unpleasant after-effects except a certain tenderness for an hour or two around the puncture. The compression with the teeth prevents the poison from spreading to the tissues, and the suction extracts the venom. Having (rather unfortunately for myself in many respects) very sensitive gustatory nerves, I can distinctly *taste* the well-known and unmistakable *smell* of the bee during the short operation. At all events, I now fear no bee-sting that I can reach with my teeth. Perhaps others may feel inclined to try this plan and will, in that case, kindly tell me if they find their own experience corroborative of mine.

I think, however, all books on bees should contain more warning than most of them seem to do as to the oftentimes serious effects of the sting of the bee; and should also put beginners more on their guard as to the occasional unexpected but most dangerous onslaughts which bees will at times make on the operator and others during manipulations of skeps and hives. In my next note I shall hope to give some of my own experiences of this irascibility.—Self Taught, *November* 15.

BRAULA COECA: THE BEE LOUSE.

[2293.] My attention has been drawn to a note in your Journal of October 10 referring to a somewhat unredeemed promise of mine. I believe I promised that if I were supplied with a nice series of the bee louse (*Braula coeca*) I would write a short paper for you on it. Well, a box arrived, much broken, with some dead bees in it, on which were no *Braula*; but a close search amongst the fragments of the box did produce a few specimens in the odd corners and in the wrappings of the box. On these specimens I began to write a small paper, but, after beginning it, I turned off to other subjects. I now, however, send you some notes very inadequately completing my notes of a year ago, and I can still say that I should be glad to receive a few more specimens, as my series is by no means complete. I should also be glad if correspondents

would give some idea of the range of this insect in Great Britain, as dipterologists seem to be just as ignorant of what is known to apiarists, as they are to the "flies" named by anglers, whose various "March Browns," &c., are mysteries to the scientific entomologist. I was almost omitting this species from my "List of British Diptera," published in 1888, because of an absence of knowledge that it occurred in Great Britain; but, fortunately, I saw it in Dr. P. B. Mason's collection at Burton-on-Trent just in time.

Braula cœca, which by interpretation means the blind louse, is a curious dipterous parasite which attaches itself to the common hive bee. The extreme outlying limits of the Diptera are very difficult to define, as the relationships of the *Aphaniptera* (or *Pulicidæ*) at the one extreme, and the *Omaloptera* (otherwise called *Pupipara* or *Eproboscidea*) at the other extreme (both parasitic on other living creatures), have led to various different opinions. The present prevailing opinion, with which I do *not* concur, forms the *Pulicidæ* (or fleas) into a separate order called *Aphaniptera*, but with these *Braula cœca* has no relationship whatever, and therefore no more need be said about them in this article.

The present prevailing opinion, with which I *do* concur, unites the *Omaloptera* with the Diptera, and the "stepping-stones" seem obvious, inasmuch as when one admits the common New Forest fly, *Hippobosca equina* (on horses) to be dipterous, no limit can be raised which would exclude the progress to *Ornithomyia* (on birds), *Stenopteryx* and *Ocypterum* (on swallows), *Lipoptena* (on deer), to the absolutely apterous *Melophagus* (on sheep), and so on to *Braula* (on bees), and *Nycteribia* (on bats). These all occur in Europe, but in exotic regions another connecting-link occurs in *Strebla* and its allies. These comparatively few species form, however, several families, as is usually the case in abnormal groups, and so, while we have in Britain about sixty families of Diptera for more than 3,000 species, which leaves an average of over fifty species to a family, yet in these *Eproboscidea* we have three families with only about ten species altogether, and the subject of this note has a family (*Braulidæ*) to itself. The genus was founded in 1818 by Nitzsch in Germar's "Magazin der Zoologie," Vol. III., page 286, and he most remarkably recognised its affinities, for which great credit is due to him, but the insect itself had been known long before as *Pediculus apis*, and was elaborately worked out in 1741 by Reaumur in his "Memoires pour servir à l'Histoire des Insectes," Vol. V., part 2, pages 411-414; he there is of opinion that they mainly attack old bees, and he is also of opinion that they do not do much harm, and that they can be mitigated, if not destroyed, by very simple and, as we should now say, very antiquated methods. Very few scientific entomologists seemed to have known much about the insect, but in 1853, Egger, who was a good dipterologist, gave a detailed monograph of the species in the "Verhandlungen der Zoologisch-botanischen Vereins in Wien," Vol. III., pages 401-408, which, I believe, is the best up to the present time, though his monograph was mainly a compilation. The species appears to be a parasite exclusively on the hive bee, and I believe is not known to occur on any species of wild bee. There is a most extraordinary development in all the *Eproboscidea* of which the life history is known, inasmuch as, while *all* insects *must* go through the four stages of egg, larva, pupa, and imago, in these few species the stages of egg and larva occur in the mother's body, and the pupa is extruded ready to produce the perfect insect. It is obvious that very much more connection will have to be established between the apiarist and the entomologist before the history of *Braula cœca* is at all well known, although its position in entomological science is probably established beyond any doubt.—G. H. VERRALL, *Sussex Lodge, Newmarket, November* 12.

BEE-KEEPING IN WEXFORD.

[2294.] The year 1895 has given me the poorest results since I began bee-keeping eight years ago. I commenced the season with twenty-one stocks, all weak in bees and stores with the exception of four hives. I had to feed constantly for two months to keep the bees going before the honey flow began. In this district it generally starts about June 10. As usual, I worked entirely for sections, save one hive, which was kept for extracted honey, and the produce of which I fed back to enable other stocks to finish off some all but complete sections. The twenty hives gave me 360 sections, or an average of eighteen per hive, together with some unfinished ones, which I fed to weak and driven stocks.

I, however, increased my number from twenty-one to thirty-three stocks, all of which are strong and well covered down for winter.

The price I received for my sections this year was 8s. 6d. per dozen delivered in Dublin carriage paid. I also took first and second prizes at the Wexford Agricultural Society Show. Seven exhibitors competed this year, which shows that the production of honey in this district is now beginning to stir people up, seeing that I had only one exhibit to contend against last year.—J. D., *Wexford, November* 3.

A BAD LAW.

ABSCONDING SWARMS.

[2295.] Referring to "A Bee Case" (*B.B.J.*, November 7, p. 456), the decision given in this case, and similar cases, appears to me to

call for some action on the part of bee-keepers in general. Such decisions, viz., that "because one's bees are not seen actually on the wing to fly into his neighbour's garden, one cannot claim them," although no other bees may be kept within twenty miles of the spot, are, in my humble opinion, altogether illogical and totally at variance with the principles of common sense.

Let us apply the principle to any other farm-stock, and suppose that our lambs or calves, or chickens, or what not, had strayed into the next garden, I venture to say there is not a judge on the bench who would decide that, because the owner did not actually see them go, they were not his, lawfully. It may be said that it is the law! My answer is,—it is a bad law, and the sooner it is mended the better. So far as I am aware, it is an anomalous law, sanctioned only by precedent—and a bad precedent at that—as having no justifiable grounds for being acted upon. May I kindly suggest the subject as one worthy of discussion by the committee of the B.B.K.A. with a view of intrusting those most likely to bring the matter before the notice of those who have the power to amend the same?—E. Bunney, *Swansea, November* 14.

THE DAIRY SHOW.

SPECIAL CLASS FOR COMMERCIAL PACKAGES.

[2296.] I am glad to see that Mr. Till (2230, p. 417) advocates a special class for "Commercial Packages," independent entirely of the contents thereof. In practice, I send my honey tins singly with a square of board at top and bottom tied with a strong string, or, if a number, packed in a common non-returnable case. My customers prefer to be saved the trouble of sending back "empties."

Re the last "Dairy Show," one of my exhibits in the Twelve Jars Extracted class received a "very highly commended" card. I saw the card myself late in the afternoon of the first day of the show, but some "miserable sinner" evidently removed it, as my name did not appear in the v.h.c's. of that class. There is certainly something wrong when any outsider can alter the awards.

It has been a decidedly over-average season in these parts both for quantity and quality. The density is very much greater than last year, and in spite of a long spell of dry weather, not a shade of honey dew to spoil the colour.

I did not arrive from abroad till the middle of May, and so was behind with my supers; consequently all my stocks but three swarmed, and I have only taken about 1,100 lb. from twenty-one stocks and a nucleus (spring count). After all, however, one must not expect much from A Duffer, *Longparish, Hants, November* 4.

P.S.—I enclose two samples of what was sold to me as pure cane sugar. I should be obliged if you will give me your opinion of them, and tell me if they are fit for winter candy for bees.

[There would, indeed, be "something wrong," as our correspondent puts it, if awards could be altered by "outsiders," as suggested above. We are, however, able to assure him that no alteration occurred, and that if a "v.h.c." card appeared on his exhibit, the "miserable sinner" who placed it there—whoever the latter might be—found out his mistake, and rectified it. Anyway, the list of awards—as printed on page 414 of our issue for October 17—is perfectly correct, and according to the "Judging Book." This much we can personally vouch for. Referring to postscript *re* sugar. If samples can be relied on as "pure cane," the white sugar will do very well for candy-making. The yellow "Demerara" is, however, unsuitable for the purpose; though it would be quite suited for syrup food in spring or summer.—Eds.]

PROPOSED ASSOCIATION FOR HERTS.

[2297.] Referring to the notice on this subject on page 421, October 17, and in view of the coming Bath and West of England Show for 1896, which involves its principal residents in a large amount of guarantee money, it has been thought desirable to hold over the formation of the association until next year, when bee-keepers and all others interested could more readily have the advantage of a conference on the Bath and West of England Show ground. I should, in the meantime, be glad to receive the names of those desirous of joining, and whether they would be willing to undertake local secretary's work in their several districts.—J. H. New, 14, *Essex-road, Watford.*

COST OF MOVING BEES FROM ROOFS.

[2298.] I see in the B.J. of October 24 (2248, p. 430), that Dr. Bartrum estimates the cost of removing the bees from his dwelling-house at £20. Allow me to say that I have had a great deal of experience in that line, and I believe the whole job might be done to his perfect satisfaction for the sum of £5, and he would have the honey into the bargain.—W. A. Withycombe, Second Class Expert, *Bridgwater, November* 11.

"CIRCULATION."

[2299.] A good "circulation," which every possessor cannot appraise too highly, depends, as everybody knows, largely on the quality of the *heart*, and although you have been pleased to pour a cold douche on the "suggestion" (2285) (in order, I suppose, to lower your cor-

respondent's temperature), I, for one, go *heartily* with the suggested effort, though understanding how modesty in the Editors may be a little abashed at the plea appearing in their own paper—but why?

We bee-keepers owe very much to the Journal, and its prosperity is synonymous with the prosperity of bee-keeping. If, therefore, we can place the Journal on the table of every public library and reading-room in the land, and other tables beside, we not only help the circulation of B.B.J. but B.K'p'g in the bargain!

I admire the remark of a recent contributor that "Optimism is better than pessimism," though both are extremes. But for optimists, the world would stagnate. Poor Ferdinand de Lesseps' chief fault was being too optimistic, yet we must all admit that, had it not been for his optimism, we might still be steaming round the Cape to Calcutta. I see nothing at all unreasonable in your somewhat optimistic contributor's "suggestion," but rather the reverse.

I am happy to inform you that the "cold douche" above referred to (whatever its effect on Mr. E. D. Till) has stimulated me to do as he has suggested, and I feel pretty confident that all earnest bee-keepers have already put the item on their—AGENDA, *November* 16.

"QUOTATIONS."

[2300.] I am very much indebted to Dr. Bartrum, as well as instructed and amused by his full reply to my two queries. The Doctor is in his element when literary research is in question, and I am sure your other readers will have derived considerable amusement from such interesting matter as the letter contains. The supposition that I hail from Trinity is not correct. "B. Short" is not the "Tommy Short" the Doctor refers to, though the coincidence was quite sufficient to warrant that assumption. One quotation was supposed to come from Hood's song, "Ben Battle," who left his legs "in Badajoz's *breaches*;" but Dr. Bartrum has settled the point conclusively.

One of your correspondents lately signed himself "A Duffer." I cannot find the origin of the word, but have an idea it was originally applied to sheep-stealers. I hope, therefore, he is not serious in the use of so complimentary a title.—O. Y.

[We have to thank several other correspondents for interesting communications on "Quotations," but as the ground is covered by what has already appeared in our issue of the 14th inst., it is unnecessary to occupy space by repetition.—EDS.]

WOT'S IT ALL ABOUT?

[2301.] I ain't much of a skoller, mister editur, but it do seem to me as if some of yure riters as well as me are a bit short of eddication, judgin' by there ways of speakin'. If a party can't spel, wy don't 'e say so an let you' spel for 'im so as we can make out what 'e menes?

In yure paper lately i have bin quite fogged by the eddins to some chappters, an' i can't, an' the missis can't, nor the yung-uns can't make 'ed nor tale of it, not avvin lerned french. One gent tops is lettur "pro appel" sumthin, an' another cal's his "noty andy enquire," et cetera; but wot's it all about? that's wot i begs inquire.

Then there's them "quotashuns," wotever they mene, about "fitin' on 'is stumps." An tawkin about "Tommy Short." Who's Tommy Short? I don't want to be rood Mister editor, but isn't it "Tommy" somethin else that's ment? At awl events i do wish as our gentlemen riters would just think about sich as me, who pays is penny for a bee-Journal, an' as to scratch is ed an' wurry is branes tryin to make out a lot of lingo that can't be understud. If it's spelt rong yu shud spel it rite for them, that's wot i say. N.B.—My *nondy ploom* is "PLANE INGLESH"

TECHNICAL INSTRUCTION IN CORNWALL.

REPORT OF THE COUNTY COUNCIL APIARY AT CALLINGTON.

The chairman of the District Committee for Technical Instruction of the Cornwall County Council (Callington District), Mr. J. W. Lawry, has favoured us with the subjoined report, which he rightly judges will be of interest to our readers. Having ourselves visited the apiary referred to we have especial pleasure in publishing its annual report:—

DEAR SIR,—I have great pleasure in forwarding you my report on the management of the apiary at Callington, under the direction of your committee, and shall feel obliged if you will place it before your committee at the next meeting.

1. The atmospheric conditions of the year have been favourable for bee-life and for the gathering of nectar by the bees, with the exception of the month of May, which was dry, and consequently checked to some extent the egg-laying and rearing in the hives. Since the drought of that month, bees increased, and there was a steady income of honey up to the end of September.

2. Your committee at the beginning of the year approved of my suggestion of working four hives for honey, and setting aside two for artificial swarming so that an increase of stocks might be obtained; I found that the distance at which I resided from the apiary, prevented me from giving the many small attentions which artificial swarming requires, one swarm was made, and to save time and act more economically, I abandoned the artificial swarming and allowed them to swarm

naturally, and as a result, the number of swarms issued has been eight from the six hives the year was begun with.

3. The quantity of honey produced by the six hives is about 115 lb. (much less than last year's yield), the average is about 19 lb. per hive, the greater part of this has been sold, giving a return for honey about £4. 16s. Six swarms have been sold and the other two are bespoke, which at 10s. per swarm have given a return of £4, so that the credit and debit accounts of the year's working will be thus :—

Receipts.

Honey sold and in hand ...	...	£4	16 0
Swarms do. do. ...	...	4	0 0
Total	...	£8	16 0

Expenditure.

Additional appliances ...	...	£0	9 0
Bottles, &c.	...	0	6 0
Total	...	£0	15 0

4. As the objects of your committee are first to show that the keeping of bees is profitable, and secondly to give instruction in practical bee-keeping by lectures and demonstrations, your committee will not object to me reminding them of last year's work on the first of these heads, which was as follows :—

Receipts.—1894.

Honey Sold	...	£6	12 6
1895...	...	8	16 0
		£15	8 6

Expenditure.—1894.

Five Stocks of Bees, Hives, Carriage, &c.	...	£13	4 6
1895	...	0	15 0
		£13	19 6

5. With regard to the second, I am pleased to report that a greater interest is being taken in this minor industry in the district which your committee represent, but not so much amongst the rural working classes as is desired. This is to be regretted, as nearly 50 per cent. of our rural population might obtain 50 or 60 lb. of honey every year with but very little outlay and attention, if they would first obtain a few stocks of bees, make themselves acquainted with their management, and give the necessary attention they require, which would be considerably less than they give to their poultry or pig. No extraordinary talent is required in bee-keeping, simply a knowledge of the first principles of bee-culture, and a little energy and perseverance will ensure success.—Yours obediently, JOHN BROWN.

November, 1895.

"To Mr. Wm. Pearce, secretary, Technical Instruction Committee, Cornwall C.C., Callington District."

The Chairman adds :—"Any fruit-growers, bee-keepers, or others interested in technical instruction, visiting Cornwall next year, are invited to pay a visit to the plot laid out for these purposes at Callington, when the secretary will be pleased to give all the information in his power."

Echoes from the Hives.

Sussex, November 8.—My nine hives of bees have gone into winter quarters wonderfully strong in numbers and well provided with stores. In mid-September I drove the bees from five skeps ; filled a "Wells" hive with four lots, two either side ; and was obliged to put one lot by themselves in a single hive on six frames, not being able, and it being by that time too late, to drive more. These I have all fed bountifully, and they have filled built-out combs and added to them. Now they are all provided with 2 lb. cakes of candy, and are warmly "tucked up" for their winter sleep. But there is no sleep in them ! Only a day or two ago, before this deluge of rain, they were bringing in bright yellow pollen, taking in water freely, and dancing in the sunshine as if it were spring instead of autumn. During the recent severe cold and frosts a good many bees died and were carried out, but now they seem in first-rate condition.

Since writing the above I have ascertained that the pollen comes from some rape and mustard not far off which is flowering out of season owing to the extraordinary mildness of the weather. This is such, that some broad beans in my garden are again in flower ! Another, and less satisfactory, proof alike of the mildness of the season and the undesired activity of the bees is, that whereas about November 4 I put on all my hives 2 lb. boxes of soft candy, at this date (November 15) little remains of it on any hive, and none at all on some. Yet the bees are well provided with abundance of stores. But the hives are so full, and the restlessness of their inmates so great, that I shall have to watch them, and look after feeding them very carefully in spite of their well-filled larder.—W. R. N., Sussex, *November* 15, 1895.

Queries and Replies.

[1396.] *Spring-dwindling.*—In looking over an old B.J., that of June 30, 1892, I note (on page 249) your instructive remarks on spring-dwindling, the generally accepted causes being given as a bad season, early cessation of brood-raising and consequent wintering of old and almost worn-out bees.

Now with our abnormally hot September of this year bees were adding somewhat to their stores all through the month ; and even where but little nectar was to be obtained, that little would give the bees hard work to obtain it. But in this neighbourhood it was

not at all uncommon for hives to be found at the same time absolutely without any young brood. So we have had the unusual combination of late income with hard work, and comparatively early cessation of brood-raising. This has caused me some apprehension of danger next spring, though the stocks on putting up for winter, were strong in bees and well supplied with stores. 1. May I ask if you consider such fear justified? 2. Could you say what flowers give to a sample of Narbonne honey its somewhat almond-like aroma? I have been told by a retail dealer that this honey sells next best to English honey. The preference for English honey is gratifying to those of us who sell our own.—S. JORDAN, *Bristol, November* 15.

REPLY.—1. We do not think that any uneasiness need be felt as to spring-dwindling being common in 1896. On the contrary, it would much surprise us if the early cessation and non-resumption of breeding was at all general in the past autumn. Anyhow, our personal experience points in an entirely opposite direction, and we regard the fall of 1895 as an unusually good breeding time, stocks, on the whole, going into winter quarters strong, and having a large proportion of late-bred bees. 2. The aroma referred to is derived from herbs growing in the locality from whence the honey is gathered.

[1397.] *Queen-rearing.* — I wish to rear queens next season just for my own use, and a friend advises me that I might safely keep several queens together in an ordinary hive, provided they were all fertilised before I put them together. He informs me also that only virgin queens fight, and that after mating they would not attempt to destroy each other. I should be glad if you would kindly tell me:—1. If it is possible to safely keep several fertilised queens in one hive as stated above? 2. Is there any particular method by which this must be done? 3. If the plan is practicable, would it not be an advantage to keep more than one queen in each hive, and thus help to strengthen weak stocks?—FRANK DODWORTH, *Sheffield, November* 14.

REPLY.—1. Not unless the queens are caged to prevent fighting. 2. Several (caged) queens may be preserved, but not for more than a few weeks. 3. It is not practicable to have more than one laying queen in a single stock, except on what is known as the "Wells" system.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

BEE-KEEPER (Penarth). — *Foul Brood in Autumn.*—In view of the risk of "robbing" in early spring, and the serious consequences to the other six healthy stocks should this occur—we strongly advise doing away with the diseased colony entirely. To have six good stocks made safe is surely worth the loss of an affected one, to say nothing of the trouble involved in the curing process, and the chances of infecting the other hives attendant on manipulating the diseased stock in the coming spring.

R. CHAPMAN (Newton, Northants).—*Locating Hives in a Barn.*—A good roomy barn, such as the one described, would make a capital bee-house, so long as free outlet is afforded to any bees which may escape during manipulations; nor need too much importance be attached to the particular point of the compass towards which the hive-entrances face. What we don't understand in the details of your proposed plan is the placing on north side of barn "four rows," and at the east end "six rows of hives *above each other.*" Our correspondent surely does not contemplate so impossible as feat in hive fixing as the words quoted seem to imply? The "palm willow" yields pollen in abundance during early spring, and will be very helpful to the bees at that time.

E. E. PARSONS (Stoke Golding). — *Stimulating and Transferring.*—1. Pea-flour candy is given in spring as a substitute for pollen at an earlier date than the latter is available. Ordinary bee-candy, of course, lacks the nitrogenous food so helpful in stimulating bees to early breeding. 2. Under the circumstances stated it is far better to let the bees transfer themselves from the skeps to frame-hives and so "save the trouble of driving, &c." In doing this, the skeps must be fixed *above* the frames, thus allowing the bees to work down on to the frames fitted with foundation below. It would be very difficult indeed to fix the frame-hive above skep and let them work upwards as suggested, besides being likely to retard the process of transferring. 3. On no account should the bees be confined to the hive by perforated zinc to prevent loss of bee-life. The remedy would be worse than the evil complained of. Let the bees alone if warmly wrapped and well provided with stores.

"HOMO" (Tadcaster).—*Candy Making.*—The mistake of substituting tartaric acid for cream of tartar in making bee-candy will cause no bad results if no more than the proper quantity of the acid was used.

F. GOODRICH (Methwold).—1. Vipers Bugloss (*Echium vulgare*) is a very good bee-plant, yielding honey freely. The "wire-woof" roofing mentioned would make an admirable covering for a bee-house roof if the cost were no objection.

S. R. WILKINSON (Great Marlow).—*Suspected Foul Brood.*—The dead brood in comb sent is chilled, not foul, and it is more than probable that over-dosing with naphthaline has caused the mischief.

We have several interesting Articles and Letters in type, which will appear next week.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

THE VACANT SECRETARYSHIP.

Attention is invited to the announcement in our advertisement columns regarding the appointment of a secretary to the association, rendered vacant by the death of Mr. John Huckle. Full particulars will be found in the advertisement referred to.

LUDLOW CHRYSANTHEMUM AND FRUIT SOCIETY.

The first annual exhibition of this society was held in the Town Hall, Ludlow, Salop, on Thursday, November 14, and resulted in a splendid collection of flowers, fruit, and vegetables. Open classes for comb and extracted honey were also included and every exhibit staged in these was of excellent quality. Mr. John Palmer, of Ludlow, acted as judge, and the success of the honey classes is mainly due to his energy and interest. We trust in the future many more entries may be received and the show committee well supported in their endeavours to further the cause of bee-keeping. The awards were as follows :—

Twelve 1-lb. Jars Extracted Honey.—1st, Jas. Lewis, Cold Weston, Craven Arms, Shropshire ; 2nd, Jos. Thomas, Ryelands-street, Hereford ; 3rd, Wm. Williams, the Union Workhouse, Lichfield.

Twelve 1-lb. Sections of Comb Honey.—1st, C. A. Boughton-Knight, Bromfield, Salop ; 2nd, Wm. Williams, Lichfield.

Mr. Palmer exhibited a fine trophy of extracted honey, not for competition, to which the show committee were pleased to award one of their special certificates of merit.—(*Communicated.*)

A WARNING.

As a good honey season is frequently followed by a bad one, so we may find 1896 disappointing our ordinary expectations, and may discover, when too late, that sections and extracted honey will not be forthcoming for the early shows.

The "Bath and West" Agricultural Society have held out special encouragement to bee-keepers at their St. Albans show in June next. We therefore hope there will be a generous response in the shape of liberal entries of honey.

The schedule has been so framed as to admit 1895 honey. Bee-keepers ought, therefore, to keep some choice samples over in order to be prepared for any eventuality.

COUNTY BEE-KEEPING STATISTICS.

According to the bee census taken 1894-5 by the honorary local secretary of the Kent B.K.A., Ramsgate district, there are fifty bee-keepers owning 179 hives. The details are :—Ramsgate and St. Lawrence, nine members, owning twenty frame-hives and nine skeps and twenty non-members, having among them fifteen frame-hives and eighty skeps. In Broadstairs and St. Peter's there are six members, whose apiaries consist of sixteen frame-hives and three skeps, and fifteen non-members owning twenty-four frame-hives and sixteen skeps. Total, fifty bee-keepers ; seventy-five frame-hives, 104 skeps. Showing that, even with a most painstaking and zealous local honorary secretary, not a third of the bee-keepers are associated. At Ramsgate and St. Lawrence "skeps" unduly preponderate, showing non-progression.

Essex is likely to have the most advanced and comprehensive bee-keeping census, if what we hear be correct. It would be interesting to know what progress has been made, and when the county will be completed.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

PREPARING BEES FOR THE HEATHER.

[2302.] Allow me a small space in your valuable journal, so as to refer to 2237, page 491, B.B.J. for October 17, and also to state that I quite agree with the remarks of Mr. Joseph L. Dent when he states that "there is much to learn as yet in preparing bees for the heather." Let me state, in the first place, that I, for one, would very much like to see some of our northern bee-men come forward and give their experience relative to this subject. I have tried both small brood-chambers and large ones, and find it is most profitable to regulate brood chambers according to the prolific nature of queens. I work my old queens on from nine to eleven frames, as mine nearly always swarm when on less, which is a dead loss. My virgin queens I put on from five to eight frames, according to their age and prolificness, as they will allow being crowded into sections, without taking the swarming fever as old ones do. My hives are all constructed to take a rack holding 28 1-lb. sections, and tier up as required. I extract all unfinished sections and return empty combs before taking them to the

heather, as my object is to get "pure heather honey," because at the present time I have only a poor sale for clover, and almost none for the extracted honey, as I cannot induce the public to buy it. I have my bees to remove about nine miles to the heather, to a place called Harehope Hall, near Edmundbyers. There were no less than 206 hives located at this place, and only two died out of the whole number. Most of the bee-keepers that I have come across and had conversation with were highly satisfied with their takings.

Let me further remark that I had a very strange experience in the spring. I put nineteen stocks into winter quarters. But of this number, eleven had old queens, and eight from 1894. Three of the best stocks died owing to the severe winter—with brood in centre of the cluster. Two came out queenless, seven turned out drone-layers—five young and two old ones—leaving five single stocks and one double-queened hive to commence the season with. 1. A Ligurian stock I increased from one to three. 2. A Carniolan, increased from one to six—both 1894 queens. 3. Hybrid Carniolan, increased from one to three. 4. Hybrid Carniolan, no increase. 5. English Black, no increase. 6. Double queen stock, Hybrid Carniolan, no increase. Quantity of honey taken this season :—

	Clover, 1-lb. sections.	Extracted lbs.	Heather 1-lb. sections.	Total. No. lb.
No. 1	12 ..	9 ..	37 ..	58
„ 2	8 ..	9 ..	80 ..	97
„ 3	31 ..	6 ..	29 ..	66
„ 4	6 ..	4 ..	73 ..	83
„ 5	18 ..	8 ..	33 ..	59
„ 6	14 ..	15 ..	101 ..	130
Total				493*

* This total does not include unfinished sections from the heather.

Blackhill, co. Durham, November 20. GEORGE ROCHESTER.

BEE-KEEPING IN LINCS.

BEES AT THE CABLE FARM.

[2303] I believe it is some years since I wrote to you, I think not since I gave up the secretaryship of the Notts B.K.A., but I have been taking an active part in bee-keeping all the time. As you will see by the address, I am located in Lincs, and close to Lord Winchilsea's Cable Farm. This causes me to write, for it will no doubt interest your readers to know that at the "Cable Farm" bee-keeping has been taken up as one of the minor industries worthy the attention of farmers.

The Earl of Winchilsea is president of our County Association, and about a year ago wrote to our most energetic secretary, Mr. R. Godson, about some bees, and he supplied him with two good stocks in October, 1894. These wintered well, and I was asked to look at them the first week in May (they had not been opened before except when they arrived). I found both in excellent condition, but likely to run short of food, so advised feeding. This was done, with the result that the bees never looked back, and swarmed early, in fact on the day I moved into this district (June 8) they had their second cast. Both hives swarmed and cast, so the increase has been from two to six stocks. All these are in good condition for winter, and have required no feeding. Five out of the six have given surplus, the total being 125 lb. of honey (viz., forty-seven good sections, and 78 lb. extracted), and 1 lb. wax.

I think you will agree that increase and honey taken are very satisfactory for a first year. These results are being published in *The Cable* to encourage farmers to adopt bee-keeping. No one on the place knew how to manage frame hives, but I have done nearly all, so they have been more favourably fixed than most beginners.

I have done a lot of expert work in Lincs. having a fortnight's tour in spring and a month in the autumn. There is much less foul brood in the county than last year. This I attribute to two causes—first, our visits the previous year, second, the severe winter which has caused the weak stocks to die off, and where the old combs have been burnt there have been little or no signs. For this county I consider the season has been a pretty fair one. As usual, those whose stocks were built up ready for the honey flow doing very well, while those hives which were weak at the commencement of the honey flow did little more than get sufficient for winter.

The difficulty seems to be to get rid of small quantities of honey, such as a stone or two, but I think I am not far wrong in stating that this county will have a honey depôt next year and we hope to be able to dispose of members' honey. One of our members, I am told, took half a ton of honey to the dairy show and easily disposed of it.

I have judged honey at various shows, but never saw better samples than were staged this year, and the style of getting up the exhibits is better. I think we can claim to have come off best at the dairy show, certainly if we judge by proportion of prizes to exhibits.

The attendance at the lectures in bee tent at the various shows has been good, and greater interest seems taken all round. The evening lectures in the winter under the auspices of the County Councils and the L.B.K.A. have done, and are doing, much to promote bee-keeping.—FRANK H. R. FISHER, *Ewerby, Sleaford, November* 18.

FOUL BROOD.

TREATMENT BY BROMINE.

[2304.] Having received during the last twelve months many inquiries from bee-keepers respecting the treatment of foul brood by bromine, as suggested by me, I should be glad to be allowed to state through the

JOURNAL that my apiary this summer appeared quite free from disease.

When I say that my average yield of honey per hive was between 70 lb. and 80 lb., I think you will agree with me that this fact of itself serves as a fairly good guarantee of the healthiness of my bees; and when I remind you that two years ago my apiary contained fifteen diseased stocks, you will admit that I have some reason for considering that this treatment has, in my own case, proved successful. But, as I have before stated, I do not suggest that, at present, this treatment can be indiscriminately recommended. What I do claim for it is that, in the hands of any one who is able to apply it with sufficient care and caution, the spores of the disease may, without injury to the bees, be attacked, and a real cure effected; and that the devising of simpler methods of application is probably only a matter of time.

There is, at any rate, one point about the treatment which I cannot help thinking is of immediate and practical value to all bee-keepers. I believe that my own success has been very greatly facilitated by the simple, yet thorough, means of disinfection which, in bromine, I have had ever at hand. As a disinfecting agent for hives, &c., I cannot imagine anything more effectual, and at the same time so simple.

Sulphur fumes and carbolic solution we know are powerless to touch the spores, while the effective application of steam is too troublesome and expensive a process to be commonly and constantly resorted to. My plan with hives is as follows:—Having stopped up entrance, &c., I allow the fumes of bromine to pervade the interior, after which, with a bromine solution, I thoroughly wash inside and out.

I claim for this method a simplicity equal to that of the ineffectual practices commonly resorted to, and at the same time a thoroughness as complete as the more troublesome, and for many people impracticable, application of steam.—GERARD W. BANCKS, *Durham House, Dartford, November* 14.

HOUSE APIARIES.

CONCERNING LARGE AND SMALL BEE-HOUSES.

[2305.] I am much interested in "Norfolk Dumpling's" description of his bee-house (p. 471), also in Mr. Brice's account of his bee-house some weeks ago.

I commenced to build a small bee-house early last spring, and it is not quite finished yet, owing to my uncertainty as to the best plan on which to construct the front.

The house is 12 ft. long, 5 ft. wide, 8 ft. at the back, and 6 ft. at the front. It is constructed of scantling 4 by 2, and matchboards.

My chief difficulty was what to roof it with. In the end I selected Allport's "patent wire-wove roofing," and so far I am well pleased with it; so much so, that I intend roofing a honey-house, I purpose making, with it. The honey-house will be 20 by 14. My present one—12 by 10—is uncomfortably small.

I think the front of a bee-house should be capable of opening, for many reasons. The front of mine is divided into five divisions, by scantling 4 by 2, each division being 2 ft. wide. Two divisions are made of slabs of wood 2 ft. by 2 in. by ½, backed with 2-in. strips of zinc 2 in. wide; consequently the whole front is flexible, and, by means of a cord and pulley, can be drawn up under the roof. The chief advantage is it can be fixed at any height according to the weather. The other divisions are worked on a different plan, and are not quite finished yet. The house is constructed to hold six hives in two blocks of three hives. It is less trouble making three hives in one "block," and the bees in the middle hive are very snug, as they have a hive on each side of them. There is a 2 in. space between the middle and side hives, to allow for handling the supers. This chamber is connected with the hives, and can be used for feeding purposes. The floor of the bee-house is boarded, and oilcloth laid down the passage at the back of the hives. A good wooden spout carries the water from the roof into a drinking-trough for the bees. The matchboarding is ½ in., which I consider amply thick enough. The house will not cost me more than about £4. The roof is the expensive item—£1. 2s. My honey-house is matchboarded outside and inside, with a 2 in. air space, in which the mice have fine fun. To fill in the air space would be no advantage, unless the window and roof were treated in the same manner. My window has a hinged shutter, which draws up with a cord over a pulley, which helps to keep the extreme cold out of honey-house.—R. T. SHEA, *Southend, Essex, November* 23.

"COME ON, MACDUFF!"

[2306.] My reverend opponent in the F.B. controversy seems to have had "enough" of it, judging by his wild hitting. In fairness, however, to me and to the question at stake, you must please allow one more "round," for the doctor has not yet properly thrown up the sponge—he has only tried to run away from the sticking-point. Dr. Bartrum long since hinted in the JOURNAL that he was the father of the suggestion as regards the issue of a foul-brood leaflet. Allow me to say, as one of the conference at the Board of Agriculture, that it was Mr. W. H. Harris, of the B.B.K.A. Council, who conceived the idea, and Mr. Elliott, the secretary of the board, fathered it there and then. Dr. Bartrum, who had not then long resigned his seat on the council of the B.B.K.A., very unadvisedly, I think, went behind the council, and wrote direct to the Board of Agriculture protesting against our proposals. The project of the leaflet has not

been forgotten for a moment by the B.B.K.A. All the information thereon that has accidentally come to light through the recent controversy (which, by the way, Dr. Bartrum himself first provoked) is that the materials have been prepared, and, I am happy to say, as a guarantee of thoroughness, by our friend Mr. T. W. Cowan. Therefore Dr. Bartrum's "point one" is worth—nothing!

As to the discussion proving that "some" regard foul brood less seriously "than yourself," Dr. Bartrum's "some" (a very indefinite "sum" indeed) comprise the doctor and one besides, best known in this controversy as the "Eminent Expert." Now, both are friends, they both hold heretical opinions in regard to foul brood, and their practice accords with their doctrine. They are, in a certain sense, "consistent," but when bee-keepers are thus heretical they cannot help foul brood tracking their steps. You can trace them by the apiaries they start. Indeed, that does not need proving; it follows as an inevitable sequence. This disposes of Dr. Bartrum's point "two." I am glad, however, to think that our friend Mr. Garratt, who can speak from a large and valuable experience, considers the B.B.K.A. estimate for Kent, viz., £250, for the first year's inspection and compensation far too high. He put it at £125 or less, so that instead of the necessary rate being "one-twentieth of a farthing in the pound," it is more likely to be but one-fortieth! Verily a trifle to contend about, but when people mean to be unreasonable, even the fortieth part of a farthing can be made to serve for *casus belli*.

The discussion I think has now pretty well drawn the teeth of the opposition, and when all the arguments that can be brought to bear against the B.B.K.A. programme consists in irrelevent topics, such as the Swine-fever Act and the highway rate, the true friends of bee-keeping need not be alarmed at the threat with which Dr. Bartrum winds up his last letter. I confess to feeling genuine sympathy with the doctor on the subject of local taxation, but let him come and live in Eynsford! He would then appreciate the force of Dr. Samuel Johnson's advice to discontented Britons generally, to domicile themselves for a year abroad in order to come home again contented.

When at Whitehall last Friday I called in at the office of the Ecclesiastical Commissioners in order to ascertain the acreage of Wake's Colne and also the amount of the rectorial and vicarial tithes in that parish, but, though I was treated most civilly, I found the information less accessible than I had supposed. I was reminded of that celebrated description, either from the pen of Dickens or Punch, concerning the intric(k)acies of "circumlocution." I was told that I ought to apply at the office of the Tithe Commission in St. James's-square. Unfortunately, it was then nearly train time, so I had to abandon further research. This was somewhat regrettable, because the information would have enabled me to better appreciate Dr. Bartrum's position and the special incidence of local burdens on the land at Wake's Colne. Tithes are, of course, taxable property; I do not, therefore, wonder that our friend Dr. Bartrum feels the inequality of the position. I have heard "some" use the word "iniquity"—of the present burdens on land.

It is a comfort to know that our Government is strong, and likely enough to lift the tithe bodily from off the land in the coming session. Dr. Bartrum must not suppose that I use the word "lift" in its undesirable sense.

In conclusion, I assure Dr. Bartrum that I am now quite of his opinion that it is high time the present controversy was brought to an end.—E. D. TILL, *Eynsford, Kent, November* 23.

[It is satisfactory to know that we shall meet the wishes of our correspondents in now closing the above discussion.—EDS.]

SAINFOIN HONEY FROM MINORCA.

[2307.] I will thank you to tell your (and "our") valued correspondent, the editor of *Revista Apicola*, in Minorca, that you have afforded me the privilege of tasting his sainfoin honey. Next time he writes perhaps he will say what his handsome bottles cost per dozen and how much each contains. I consider the honey *very* good, but I hope I shall not occasion him disappointment if I remark it is not quite equal to British sainfoin honey. The Minorca sainfoin is a different variety to that found here, and hence the difference in the flavour of the honey. The Minorca is sweeter and has a pleasant aroma like quince preserve, quite distinctive in character from ours. If he tells you when his consignment is ready we must try to find him a buyer, in fact such foreign honey as his is a pleasure to see, but I fear as we are getting good British in bulk at 6d. and 6½d. the English pound, his tasty bottles (even if a full pound) would not fetch over 7½d. each to sell again.—A. BIELLE.

WAX EXTRACTING, &c.

[2308.] *Notanda et Inquirenda.*—I was very pleased to see "Self-Taught" (2284, p. 464) giving his method of cleaning impurities from under-side of wax cakes. This was a grievance that I too had not overcome. There are, no doubt, many little "tips" found out and practised by B J. readers, and not generally known, but which our Editors would no doubt be pleased to find space for, and be appreciated by members of the craft.

Wax Cappings.—I now run my apiary solely for extracted honey, but found a difficulty in getting my wax cappings drained dry, and when hanging them up in a cheese-cloth bag I was tormented with wasps and bees. This past season, however, when my uncapping-dish was full, I put the cappings through a "honey-squeezer" (the one

illustrated in most dealers' catalogues), then pressed them into a small tin pail, such as you will see children using at the sea-side on the sands (you can get them any size at a small cost), then put the pail in a pot of boiling water on the fire for a little time. I had then my cake of wax and a considerable quantity of honey, which I mixed up with my autumn syrup when feeding up; formerly I consider this honey was lost to me.

Alighting Boards.—In order to extend these down to the ground I use any scrap pieces of wood I have about, and cut into eighteen-inch lengths; I then drive two wire nails through near the top corners and the same at the bottom, but from the opposite side, then with a blow of the hammer bend the nails so as to project over the ends. I use length of nails to project about half an inch; press the bottom nails into the ground and the top ones to rest on the alighting board. If the weather buckles the board, turn it top for bottom, and the weather will bring it back again.—JOHN BROWN, Perth, *November 19th.*

PREVENTING SWARMING.

[2309.] In answer to questions asked by "Self Taught" on page 464 of B.J. for November 14, 1895, I recommend, from personal experience, that, previous to your bees working, see that there are no queen cells in the hive. As the weather becomes warmer, raise the front of the hive one inch, this will give more air, and, if very hot, place a wet sack over the hive. This will prevent swarming to a great extent. Swarms should be fed and treated in the same way. I have kept bees for the last twelve years, and have strictly adhered to the above plan with success.—WM. BENT, Expert, B.B.K.A., *Groby, near Leicester.*

THE SCOTTISH BEE-KEEPERS' ASSOCIATION.

[2310.] I noticed in your issue of October 31 (p. 441) a question by a north-country correspondent anent the S.B.K.A. Other pressing business has prevented my replying to it, but in case no one has undertaken the task, courtesy compels me to say a few words in reply. I will be very brief, as "brevity is the soul of wit," and "least said is soonest mended." In the end of February this year I received an invitation to attend a meeting of the S.B.K.A. It so happened that it was impossible on account of professional duties for me to journey to Edinburgh that week. I learned afterwards, through the kindness of the secretary, that Sir Thomas G. Carmichael, the president, and Mr. Wishart, the secretary, had tendered their resignations, and that a committee had been appointed to see Sir Thomas and ask him to reconsider his position. Hearing no result after waiting patiently for some time, I then wrote to Sir Thomas privately, and found that while he still seemed willing to do something for the association, his resignation and practical severance from the S.B.K.A. was final. I suggested to him the calling of another general meeting and offered to do the secretary's work if any one would act as treasurer, and to try to get as many members as possible to double their subscriptions for a time till we got on a proper footing. Nothing came of this. In the autumn, at the flower show time, I again wrote to Mr. Wishart, asking him to consult Sir Thomas and see if he would now call a meeting of all the members on a show day in Edinburgh or Glasgow by post card, so we could make an effort to save the society. Mr. Wishart replied promptly and most courteously that neither Sir Thomas nor himself had now any connection with the S.B.K.A. And there the matter now stands. And a thousand pities it is, for the S.B.K.A. has been cut off prematurely in its health and usefulness. I blame no one but I deeply deplore the undoubted fact.—ROBERT MCCLELLAND, *The Moss, Inchinnan, Renfrew.*

A CODE OF HONOUR WANTED.

[2311.] Is there any code among bee-keepers for the proper recognition of services voluntarily rendered? I devote hours to a man's bees, whose appreciation consists in charging me for the milk which my thirsty soul compels me to consume on the job! I will treat you to a further bit of experience. A bee-keeper, who is not particularly skilful, asks me to take a stray and strong stock from an almost perilous position. I secure for him, in a most successful manner, a grand lot of honey as well as bees, and return home, laden with—well, I leave you to guess—"honey" say you—no, not honey, but quite a big load of *gratitude!* I am a man to whom time is money, and not above a gratuity, besides, I have a poor, thin, delicate wife, who almost goes into fits if I go up a forty-round ladder, and I have a youngster or two whose souls are stirred at the very sight of run honey. Of course, there is always, to me, immense satisfaction in having accomplished a risky job successfully, but gratitude "doesn't pay the grocer." What do you think such a job is worth!—A. SMITH.

[One who has "had a deal of experience in this line" (see 2298, page 475) says five pounds! but suppose we say ten shillings!—EDS.]

"CHESTNUTS."

[2312.] The approach of the festive season and dark December's dreary hours recalls the roastings, in our younger days, around the winter's fire, of the above-named edible. It has occurred to me lately, while perusing our JOURNAL that, sure as winter comes round, your editorial fire is often used by us—children

of a larger growth—for the purpose of toasting "chestnuts" of another kind. And, as of old some nuts got burnt, either one side or altogether, and others turned out bad ones, and sometimes the toaster's fingers were often made unpleasantly hot, still we enjoyed it all. So with the "literary" chestnuts of our later days; some turn out very bad indeed, some are overdone—burnt to a cinder, and some of the toasters get their fingers badly burnt. Still, we enjoy it all, and the unity of the craft suffers none for the indulgence in the harmless pastime. So, with your kind permission, I, too, will gather round the hearth warmed by your hospitable and genial editorial fire, and, though the storm without may (and does) "roar and rustle," the safety of my hives being provided for, *I* do not "mind the storm a whistle."

Foul brood—we thought this "nut" had been left for the "council" to cook, but the recent "Apologia pro Bacillus Alvei" has brought it into open market once again. Let us stand firm on this matter, and never rest till we have the strong arm of the law on our side, and, what is more, the stronger arm of custom, to help us in stamping out this baneful obstructive to all advancement of our craft. I am thankful to say I have never known it, nor seen a trace of it in the scores of hives I have examined during the past two years; but with the advent of many well-meaning enthusiasts around here—who seem to think that to be a successful bee-keeper means constant and incessant manipulations of the brood nest, in season and out of season—there is no telling how soon it will be upon us. Indeed, I have heard of a case—not of a member of the L. & C., I am glad to say—which had to be summarily dealt with by the best of all cures, fire! Anent the dreaded tax gatherer, I think the fears in that respect are too highly magnified, and I would gladly submit to a special "bee-tax" (say 6d. per hive or so) in order to cover the extra expense entailed, without burdening the general public. Perhaps some of your readers may not be aware that in the Holy Land a tax of four piastres, about ninepence, is levied upon each hive by the all-devouring Turk, and no return for it in any shape or form. The mother of a friend of mine who has between thirty and forty hives of the native pattern (of which I hope to say more some other time), had one bad season to pay in bee-taxes more than she received in honey value. Surely we, in this favoured land of bar-frames and "Wells" hives, associations, experts, extractors, and the 1,001 adjuncts to practical bee-keeping; with our yields of 20 to 200 lbs. of honey per hive; I say, surely we can spare a like sum to the poor Syrians of Galilee, and, unlike them, not to satisfy the rapacity of a tyrannous Government, but for our protection and welfare!

Dairy Show and Extension of Prize List.—Here again there is a worthy opportunity for the exercise of generosity on the part of some of the 52,001 who have "done well" this year. Though directly many of us may not be benefited, yet, "if it be aught towards the general good," we should all gain in the event. Therefore, put up a list with a shilling limit, and let us see of what stuff we British bee-keepers are made.

The "Circulation."—We are told that "the blood is the life," and certainly without the B.B.J. and *Record* the life of bee-keeping would not be of much value. The best means then of keeping the body-politic of-bee-keeping in full working order is to look after its blood-circulation. And there is nothing better for this advisable end than starting bee-keepers. I have lighted the torch of interest and love for the "cult" within the hearts of over fifty, and as I have impressed upon every one of these the undoubted advantages of a "bee-paper," nearly every one of these new bee-keepers takes either the JOURNAL or *Record*, many both.

Common use of Extractor.—This practice has been so often condemned by the authorities that you may think it a very "well done nut" indeed. Yet I learn the custom has been set up again by a society recently formed—any member of which has a right to the "common extractor" of the society.—FREDERICK H. TAYLOR, *Old Hall Lane, Fallowfield, Local Hon. Sec. Lancashire and Cheshire B.K.A.*

CONSANGUINITY.

[2313.] The question of heredity was discussed at one time in the pages of the JOURNAL. It is a subject which in its allied branches, especially consanguinity, might supply us with much mental food. In the past it has not, I venture to think, been taken sufficiently into consideration as it affects our races of bees. It is a "pious opinion" only with most, and many hold it does not affect them at all. In-and-in breeding, however, I maintain causes the insect to degenerate all round. Years of it bring about a dwindling in size, the energy of the bee becomes less, its activity decreases, and it becomes a source and means of producing and disseminating all forms of disease. Thus a stock that shows signs of dysentery (perhaps a moot point) in the spring of one year is much more subject to a recurrence of the disease in the following spring than a healthy stock, other things being equal. Nay, I go a step further and state as a fact that the progeny of that stock has in it something like an hereditary tendency towards a like result. Now two or more stocks thus affected, with drones and queens mating, or one of these mating with a healthy queen, hands down the tendency to future generations. Weakness and dwindling set in at an accelerated pace, and down goes that collection of hives. Apart,

however, from any pronounced disease, the same deterioration comes sure and certain where the subject of consanguinity is not taken into consideration. I need not waste your valuable space arguing facts well known to all your intelligent readers, as the animal, and even the vegetable, kingdom is teeming with proofs so plain that he who runs may read.

Skeppists of wide experience, unaware of the cause, have repeatedly maintained that there is a mysterious *something*, which after a number of years causes the stocks to degenerate ; and once that sets in, a few years' struggle to maintain a flickering existence, and then their stock has died out. This has been the universal experience of every one I have sounded on the subject. They, one and all, gravely shook their heads and predicted such a fate for mine. From the start, however, I took a rational view of the matter, and every year I add some bees or queens from another and distant apiary, with the result that, so far, I have as healthy a set of bees as can be found. I have at least seven distinct strains, and the crosses from so many intermixtures of blood and pedigree must tend to an increase of health, strength, and energy, if my premise is correct. I don't set it up as any new theory or discovery, but I maintain that with the average bee-keeper it is little practised, and generally neglected. I am far from shutting my eyes to the fact that, in the past, carelessness, indifference, and inexperience may have tended to assist, if not create, this *dying out* in some cases, but curiously the development followed the best care and attention. Nor can we lay the whole blame at the door of that sealed book, the straw-skep, for a like experience has resulted since the bar-frame hive has been used. I have a knowledge of locally "prominent" bee-men, with apiaries of considerable size some years ago, who have now only one or two stocks—likely the survival of the fittest—which will soon dwindle and die like their fellows. Cleanliness, care, and attention were given them, but no new blood was introduced for many years, and so the *something* set in, and they are gone! Consanguinity, I maintain, is the cause of all the ill. Far more of it would be heard of but that neighbouring apiaries with different families of bees are so near that drones and queens from different hives meet at mating. The cure, where this is not the case, is a true and simple one, and I have never found it fail. Introduce strange bees, either queens or swarms with queens, as a preference from a considerable distance. Individually I prefer to bring them from the south of England, and I find that these not only make excellent workers, but the infusion of new blood rouses up the old lot, and imparts to them a supply of new energy. I think it almost always happens that the drones from these hives are flying at an earlier date than from our natives, and so there is more chance of young queens being fertilised by them. Thus the old race gets a new lease of life. The old listlessness disappears. Vigour and energy take the place of lassitude and half-heartedness. The enervating process is stayed and powerful swarms and full supers follow instead of the former handful of bees and no surplus. It is only following out a common-sense principle underlying all the "change of seed" the farmer periodically thinks a necessity, and the introduction into his herd, stock, or poultry yard of the new blood, without which rent would soon be a thing which none of them could pay. Bee-men should give more attention to the subject in the future than in the past.—D. M. M., *Banffshire, N.B., November* 16.

BEE-HOUSES AND BEE-STINGS.

[2314.] *Bee-Houses.*—The interesting letter of your correspondent, "Norfolk Dumpling" (page 471), reminds me of some experience in a similar direction which may interest readers. My hives were placed in a room with a window facing south, and one of the first difficulties I met with was with regard to an exit for the bees. On opening the lower part of the window they invariably flew upwards, and exhausted themselves in efforts to find an opening at the top and, even with the window open top and bottom, the bees lost much time and labour in finding an exit. It is also a very satisfactory arrangement to construct from each hive to the window-opening a passage about 1 in. deep, of the breadth of the hive entrance, and covered with glass. If the covering be of wood—or other opaque substance—the bees find their way into the open more quickly; but the glass is a great protection against robbers. The inhabitants of the hive soon get accustomed to the sheet of glass overhead, and learn not to take wing until outside the building. A strange bee, on the contrary, attempts to fly upwards directly on quitting the entrance and, being utterly bewildered, and perhaps laden with stolen goods, learns a lesson not likely to lead to a renewal of the visit. I would strongly advise "Norfolk Dumpling" not to make his bee-house too warm, having myself lost large numbers of bees in that way. In my case, on a bright day in winter, even with a frost outside, the temperature rose so high that numbers of the bees ventured out, became torpid with the cold, and fell to rise no more. I have now abandoned my bee-house and prefer hives in the open. In any case the chief advantage of such a building seems to be its roof which affords protection from damp, even if the construction of the hives be somewhat defective.

Bee-Stings.—"Self Taught" (p. 473) may find it more convenient to press a watch key or other small key upon the spot from which he

has extracted a sting than to use his teeth as remedial agents. The pressure used should be considerable, and it is a great advantage to fill the barrel of the watch key with strong ammonia before applying it. I use a small tube containing a solution of cocaine, which soon relieves the pain. Two separate effects seem to be caused by the sting of a bee. The first, sudden pain, is probably due to the acid nature of the liquid injected; for this, ammonia is a good antidote. The after-effects, however, seem to be due to what may be termed a physiological poison, similar to that of venomous snakes, and as it has been recently found that inoculation is a remedy for, or rather a preservative against, snake poison, it is more than probable that the same will be found to hold good with bee-stings. It seems to be a prevalent opinion that bees loose their stings when those weapons have once been used, and then die; but this is by no means the case. I have frequently seen them, after inserting their sting, buzz round and round, and, as it were, screw the sting out of their victim, after which they seem none the worse for their sudden outburst of temper.—WALTER T. REID, *Addlestone, November* 25.

[So far as windows to house apiaries, it may be safely assumed that any one possessing knowledge of the ordinary requirements of such a place would have the windows swung on pivots, so that they may be instantly turned "inside-out," as it were. This arrangement is considered a *sine qua non* in a bee-house. The 3 in. space between the double walls would also prevent the inside warmth complained of.—EDS.]

MORE SUGGESTIONS.

A bee-keeper who devotes much of his time to exhibition work writes as under. 1. Badges should be worn by all who help in the capacity of stewards at shows, in order that inquirers may know of whom to ask questions. 2. A lock-up box should be provided for articles belonging to stewards or visitors. At Dairy Show several things were stolen from the B.B.K.A. stall. 3. Show stands should have the return (home) railway station painted on to save re-addressing. 4. Hon. local secretaries should be encouraged to go in for third-class examination. 5. Hon. local secretaries should make bee-keeping census of their districts, *i.e.*, record all hives and owners, whether members or not. 6. Cottager prizes at local shows should be given in a year's supply of the B.B.J., thus, 1st prize, 2s. 6d. and twelve months' BEE JOURNAL; 2nd prize, twelve months' BEE JOURNAL. 8. That the meeting of amalgamated co-operative societies at the Crystal Palace in August, 1896, be used for a grand show of honey and appliances.

One who appreciates the "suggestion" writes:—"I am glad to say that since October 5 I have taken in the BRITISH BEE JOURNAL. *I had no idea it was so good.* I wish I had been advised to take it sooner. Why are not readers of the *Record* advised to read the B.B.J.?"

ABOUT OUR BEES.

"THE DRONE."

Continued from page 468.)

Many theories have been set up as to the usefulness and otherwise of the male bee but so far nothing very conclusive or even satisfactory has been evolved from them. By some their very usefulness has been applied as a term of reproach applicable to all sorts of individuals who "do no work," though making a big noise, and so on. For myself, I cannot thus look upon the drone bee; in fact after much careful study, I am convinced that sooner or later a sphere of usefulness beyond the one mentioned will be found which will place the hitherto despised and often ill-used drone high up in the estimation of all who study the bee and its uses.

One thing I would here note, that drones are not all of the same shape; the abdomen of some being much more pointed than others. I do not for a moment suppose that differently shaped drones have different functions, but rather attribute the result to the food supplied to, or by accident withheld from, the larvæ during development; or age may account for the change. I have sometimes asked myself the question—Are these strangely-shaped drones bi-sexual? but so far have been unable to determine the point. That they do not perform any labour of the nature done by the workers is clear beyond all question. Most writers even go so far as to say they do not even feed themselves, but this is not quite correct; I have often seen drones helping themselves to honey from the open cells, as have I also seen laying queens feed themselves; so that however useless they may be, according to our lights, do not let us, because they have a bad name, vote the poor drone worthy only of being "killed off" by way of riddance, because others tell us they deserve it; rather let us try and find some redeeming feature which may be set off as a palliative to their many enormities (?), and at the same time throw light upon one of, what I term, the modern mysteries of the bee-hive.

THE QUEEN, OR MOTHER-BEE.

Of the queen-bee it may truly be said that in her is centred the main element which goes to make up the difference between a good and a bad stock of bees. Indeed, so far does the prolificness or breeding-powers of a really 'good queen" overcome difficulties and obstacles of all kinds—tending to prevent the development of a strong and vigorous colony—that such a queen and little more than a pint of bees in early spring—located, moreover, in a big,

half-combed, and more than half-rotten skep with a cold flag for floor-board—have to my knowledge built themselves up into as powerful a colony as could be wished for in time for the same season's honey-flow. I therefore propound no new theory in saying that the queen is *the* all-important member of the bee community, and is so regarded by all experienced bee-keepers. The beginner who is in earnest over his work seldom rests satisfied till he is able to distinguish the queen bee on the combs as she performs her maternal duties. This, of course, entails the need for becoming familiar with her shape and general appearance, in addition to the quickness of eye which enables some bee-keepers to "spot" the queen so readily, even on the combs of a crowded hive. Some queens, too, are much more difficult to find than others. But in all cases it is well to open hives quietly—when a sight of the queen is the special object of the inspection—and so avoid starting the queen to "run," by which term is meant so disturbing the colony that the bees and queen run restlessly over the combs and off them on to the sides and floor of the hive. By lifting the frames very gently this disturbance is avoided, and the mother-bee is so little upset in the process as to frequently continue her maternal work of egg-laying while the comb is in the hands of the operator.

A queen is recognised by her elongated appearance, the apparent shortness of her wings, and length and golden colour of her legs; these latter being quite different to those of the worker. The legs of the queen are also entirely devoid of the "pollen baskets," which form so distinguishing a feature in the legs of the worker. Referring to the queen bee, Réaumur says she "has a grave and sedate walk, and is the mother of all the others."

The queen is also the only fully-developed female in the hive. Her ovaries, of which there are two, are very large, containing "from 180 to 200 tubes or follicles" (Cowan); so that the number of eggs and egg-germs contained therein at one time must be many thousands. A single queen in the course of her life is capable of laying an enormous number of eggs. Professor Cook says:—"I have known queens to lay 3,000 eggs a day. These I find weigh 3·900 grains, while the queen herself only weighs 2·299." Thus a queen may lay nearly double her own weight of eggs per day. The sting of the queen is somewhat similar in structure to that of the worker, but it is curved and longer, and some consider it analogous to and used as an ovipositor. A queen is mated but once, and then always outside the hive, which fact has a very important bearing on the question of in-and-in breeding. A queen generally commences to fly from the hive from three to six days from the time she comes forth from the cell, and although queens are sometimes successful during these early flights in finding a mate, yet my experience goes to show that the usual period is from the tenth to the fourteenth day, if the weather is favourable, and I have had queens during bad seasons go twenty-six to twenty-eight days. More queens are lost during the first few days of their flight than at any other period, so that if I find a queen safe after the first few days I feel quite satisfied that she will not be lost, but will, bar accidents, eventually head the hive she is in, in the way desired. A queen usually commences her maternal duties forty-eight hours after a successful "mating." The brain of the queen is relatively small; a somewhat natural consequence, seeing that many of her other organs are so highly developed. In the same ratio, the brain development of the worker is much more marked. During the season when egg production is at its height queens are largely fed by the workers, Schiemenz and Schonfeld holding the opinion (which I share) that bees feed both queens and drones with digested food similar to that supplied to the larvæ. Seeing how much is involved and dependent upon the mother-bee it is surprising that greater attention is not given to her by bee-keepers in this country. So long as they know that the hive is "queened" it is taken for granted by some that all that is necessary has been done, and yet they wonder why 90 per cent. of their stocks fail to prosper. To be thoroughly successful bee-keepers we must no longer be content to jog along the old beaten track, but must take the matter into our own hands, and, by the light of practical science, breed only queens from selected and tried mothers. What is known as "allowing bees to re-queen themselves" or raising a batch of cells from the first stock available are methods no longer to be thought of. The same principle must be followed as when breeding farm stock, cattle, or poultry, in connection with which small fortunes are spent in obtaining individual animals possessing traits which will ultimately benefit our stocks. Bee-keepers, as a rule, do practically nothing in this direction, the "let alone" system being paramount. They fail sometimes because disease is rampant in their apiaries, and at other times because they pay no attention whatever to the queens at the head of their colonies, yet wonder how it is that some individual stocks will gather two or three times the quantity of supplies that others in the same apiary will collect.

The answer to this question has long troubled bee-keepers, but I maintain that the secret lies in the queen, or mother-bee, and this fact will, sooner or later, be admitted and recognised. When a proper amount of intelligence is brought to bear on the breeding and selection of the queens at the head of his hives, the bee-keeper has done his share towards obtaining uniform and satisfactory results, and without attention to these points I don't see how uniformity in returns is to be hoped for in bee-keeping.—H. W. Brice, *Thornton Heath.*

(*To be continued.*)

Queries and Replies.

[1398.] *Self-Hivers*.—As an old subscriber to the B.J. I should be very much obliged if you could give me information as to self-hivers. Are any of those now in the market practical contrivances, and worth a trial? You might perhaps think it worth while to give the pros. and cons. in a short article, giving your readers reliable information as to the use of self-hivers during the last two or three seasons? I know that with many bee-keepers this is a very practical question, and many of us are eagerly looking out for a really good self-hiver. In my own case, my hives are placed out of every one's way at the end of my orchard, and just over the wall is a large elm avenue. Do what I will, some years swarms will issue, and up they go, either to the top of the orchard or elm trees. Consequently, unless they are actually seen to issue, the chances are they are lost, or even if located, the process of hiving is rendered certainly difficult, if not dangerous. This year I particularly wanted a swarm to replace the only loss I have had in five hives in eight years. Two swarms issued, but they settled on to the higher parts of high trees. With all this foul brood about I shall certainly never buy a swarm. If you can give me and others any information on this matter you may be assured of our combined and hearty thanks.—A. L. Y. Morley, *Gt. Brington, Northants, November* 17.

Reply.—The only "reliable information" that can be given with regard to self-hivers must come from those who, having put to a practical test the various appliances made for the purpose, succeed or fail with them. And as we cannot include ourselves in either class, our evidence will not be of much value. It may, however, be remembered that the subject of self-hivers was discussed at the last conversazione of the B.B.K.A. (vide B.J. of October 24 last, p. 426), and we then maintained that the self-hiver of Mr. Hole *had* successfully secured swarms, and had, moreover, retained them in the receptacle provided until the following day. The inventor of the hiver referred to, after reading the report mentioned, sent on for our inspection several testimonials from known bee-keepers as to the efficacy of the appliance, after trial, which for obvious reasons we did not print. The query of our correspondent, however, renders this mention of them perfectly fair and proper, as affording the desired information in the only way we can, with all-round justice, publish it.

[1399.] *Bees Swarming (?) in November*.—As a constant reader of the B.B.J., could you kindly give any reason for bees swarming in this month of November? My hives are well supplied with honey, and well-packed for the winter, but to-day there issued from one hive a small swarm, with a queen and about three handfuls of bees, which I hived off the front of a neighbour's house. I have put them on four shallow-frames of honey. Could you give me any further advice?—Novice, *Bodenham, Leominster, November* 22.

Reply.—An examination of the hive from which the supposed "swarm" issued should offer an explanation as to why the bees deserted their home as stated. To an outsider —without such means of judging—it would appear that the bees left because the paucity of their numbers proved to them the futility of endeavouring to maintain sufficient warmth for keeping themselves alive. If an examination proves the contrary, the "three handfuls of bees" should be either returned to the hive from whence they came, or added to another stock, as in no other way can they be utilised.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

H. Creber (Harlesden).—There is an association for Middlesex, of which Major Fair, 13, Anlaby-road, Teddington, is the hon. sec., and will, no doubt, afford full information as to membership if applied to. We will be very pleased to print particulars of your last season's bee-work in "Beginners' Column" of our monthly, the *B.K. Record*, for December.

Anxious (Bristol).—*Candy Feeding*.—If the bees are known to be well provided with food for winter, there is certainly no need to give another 3 lb. cake of candy. It does not at all follow that, because bees carry down candy fast, they are short of food.

W. T. Lane, (Teignmouth). — *Failures in Candy-making*.—Our correspondent in asking for "more precise information" as to making bee-candy than that given in "Guide Book," because of having failed in his attempts, surely does the book injustice by acknowledging that he has not adhered closely to the instructions himself! We can only say that the cream of tartar *is* essential. The mixture also must be constantly stirred, while cooling, until it becomes white in colour and of a stiff consistency, but soft enough to pour into the saucers or moulds. Candy properly made will not become stone-hard, but may at all times be easily scraped away by the finger nail.

E. E. Thompson (Cashel, co. Tipperary).—*Painting Hives*.—We could not tolerate hives painted "all of different colours." Ours are all painted light-stone colour, and by placing them 6 ft. or more apart no mischief in loss of queens arises.

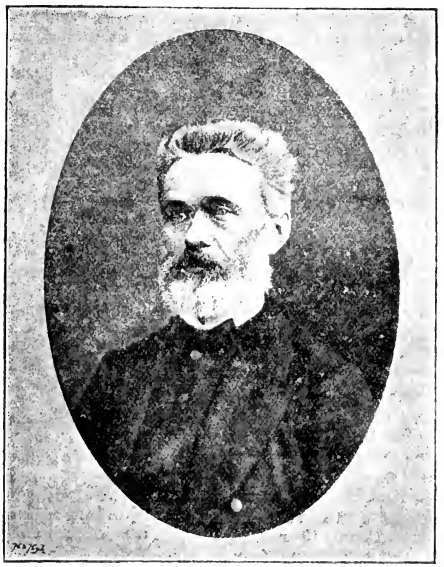
Editorial, Notices, &c.

REV. FREDERICK BASTIAN.

We have for some time past intended to present to readers of the B. J. a portrait and a brief biographical sketch of one of the most respected and highly esteemed of our continental bee-masters in the person of the late Pasteur Frederick Bastian, of Alsace, and in fulfilment of our wish, append the following particulars regarding him furnished by our friend M. Dennler :—

Frederick Bastian was born at Weiler, near Wissembourg, on April 26, 1834. After having completed his theological studies at the Protestant College in Strasburg, he afterwards performed the duties of curate and pastor at Wissembourg, officiating in this capacity for nearly thirty years.

In 1874 he was elected President of the consistory and ecclesiastical inspector of Wissembourg. Bastian fulfilled his pastoral duties well, but it is especially as a bee-keeper that he made for himself a name, which will always retain a place of honour in the annals of Alsace-Lorraine bee-keeping. Profiting by the neighbourhood of the Palatinate, he attended the course of bee-lectures given in this province, and there initiated himself in the movable comb system, with the fixed intention of introducing it into Alsace, where only the old straw skep was known. Bastian applied himself to the task and met with unexpected success. In 1868 he published his first bee-book, "Les Abeilles, Traité Théorique et Pratique, l'Apiculture Rationelle," which was also translated into Italian. This was the precursor of his extended and energetic researches for the advancement of apiculture. In 1868 he founded the Alsace Bee Association, which at first consisted of himself and a few friends and neighbours, Bastian being elected president, and retaining that post for twenty-five years.



REV. FREDERICK BASTIAN.

From this small beginning has grown a society now comprising seventy-four sections, and numbering 4,500 members.

He was the inventor of a hive which goes by the name of the "Bastian hive," or the "Alsatian hive." In 1874 he wrote his "Handbüchlein des Elsässischen Bienenzucht," which was translated in the following year into French by M. Colombain. In 1873 he founded the bulletin of the Society, "Der Elsassische Bienenzüchter," and was at first sole editor. In 1874, however, he handed the editorship over to his disciples, Dennler of

Enzheim and Zwilling of Mündolsheim. It was President Bastian who, with his charming grace and conciliatory spirit, knew how to conduct the meetings of the Society with tact, and avoid the introduction of those pernicious polemics which often cause disunion and disorder. His opinion was always respected, and he spoke with authority. Twenty-five years passed under his leadership since the formation of the Society, years of study and serious labour, and the work of Bastian is to-day crowned with success.

In remembrance of the services which he had rendered to bee-keeping in this country, it was decided to celebrate the twenty-fifth anniversary of the foundation of the society at Wissembourg. Various gifts were made by grateful members to M. Bastian and his two disciples, MM. Dennler and Zwilling. Unfortunately, Bastian was dangerously ill at the time of the Wissembourg fêtes, and a few weeks later the society had to grieve for the loss of its founder and devoted president.

Frederick Bastian died November 3, 1893, at the age of 59, after a long and painful illness. A large number of members and friends came from all parts of Alsace-Lorraine to assist at the funeral of their venerated president, who will be long remembered as one of the leading bee-keepers in Europe.

BRITISH BEE-KEEPERS' ASSOCIATION.

It is requested that, until further notice, all communications intended for the late secretary, be addressed "The Chairman, British Bee-Keepers' Association, 17, King William-street, Strand, W.C."

SURREY BEE-KEEPERS' ASSOCIATION.

The following circulars have been sent to members of the above association, and copies forwarded to us for publication :—

REPORT TO MEMBERS.

A movement, promoted by the Technical Department of the Surrey County Council, to resuscitate the failing cause of Bee-keeping in Surrey, resulted in a meeting of bee-keepers for this object being convened at Guildford, on October 19, 1895, and presided over by the chairman of the County Council.

After discussion, a provisional committee was formed to carry out the objects in view, and to elect a standing committee.

In view of such resuscitation, a special general meeting of the Surrey Bee-keepers' Association was summoned for November 15, 1895, at the County and Borough Halls, Guildford, when it was unanimously agreed to dissolve the association in view of the new departure; suggesting to all Surrey Bee-keepers the advisability or joining the above movement, started under such auspicious circumstances. — C. D. CAMPBELL, Secretary, *Nov.* 15, 1895.

Along with the above was enclosed a notification regarding the proposed new association of Surrey Bee-keepers, which is intended shall take the place of the now defunct organisation instituted in 1879. It will be seen that the prospects of the proposed new Surrey Bee-keepers' Association are of the most encouraging kind, and we are requested to state that any lady or gentleman interested in the movement will write to the hon. sec., whose address appears at foot. Slightly condensed the circular reads as under :—

At the instance of the Surrey County Council, as you are probably aware, a conference of bee-keepers in this county was recently held at Guildford.

A provisional committee was then appointed to confer with the committee of the previously existing Surrey Bee-keepers' Association as to the steps to be taken to reconstitute the Association in a form to secure the support of bee-keepers throughout the county, and financial assistance from the County Council.

I now have the honour to inform you that the result has been the formation of a new Association, with a strong committee of gentlemen, of business capacity, representing every division of the county, who are willing, if adequate support is forthcoming, to give time and energy to the management of the Association.

Under certain guarantees for the proper expenditure of public money, the Association, under this management, may expect to receive substantial monetary assistance towards their educational efforts from the Technical Instruction Funds at the disposal of the County Council.

The affairs of the old Association are wound up, and the new organisation begins its career with the objects of :—

1. Promoting more scientific methods of bee culture.
2. Spreading a knowledge of the industry.
3. Taking joint action for the extermination of disease and
4. Providing means of co-operation for the readier and more certain disposal of products.

Subscriptions to ensure membership of the Association will be not less than five shillings per annum, except to *bonâ-fide* cottagers, whose subscriptions will be half-a-crown per annum, payable in half-yearly instalments.

In return for the annual subscription members will be entitled to—

1. A yearly visit from one of the authorised experts to the Association, free of cost, and to expert advice, at any time, on payment of a reduced fee.
2. A monthly periodical, on the subject of apiculture, free, and to bee publications at reduced cost.
3. Participation in the special contests to be promoted by the Association, and
4. The benefit of the means that may be devised for the disposal of products.

It is hoped that all details of working can be completed by the end of the present year, and that the committee will be in a position to call a general meeting of the members early in the new year for confirmation of their proposals; but everything must depend upon the amount of support that is forthcoming from bee-keepers and others in the country.—I have the honour to be, your obedient servant, J. W. JACOMB HOOD, hon. secretary, *pro tem.*, *The Avenue, Surbiton, November*, 1895.

BEES IN PUBLIC GARDENS.

A member of the B.B.K.A. Council writes as follows:—"I lately inquired whether an observatory hive of bees could be located at the Zoological Gardens, Regent's Park, some member of the B.B.K. Association undertaking the necessary oversight. It appears they were once tried at the 'Zoo,' and it is said 'stinging and swarming' made them objectionable. Certainly it would be awkward if a swarm settled on the pole of the bear pit, or in some other place of ugly surroundings. Those in authority at the Zoo are evidently not favourable to bee-keeping in the gardens. It is rather unfortunate, as an observatory hive, with a few exhibits explanatory of our industry, would be very interesting and instructive to thousands of visitors."

"The following is from the Director of Kew Gardens in reply to a similar suggestion. It is very sympathetic, and, so far, encouraging to us and our industry, but that is all. I should like to see bees to the front in Botanical Gardens, perhaps there is a better chance in the provinces for this new departure."

Dear Sir,—Bee-keeping is entirely beyond the scope of "Kew" work, which is already more than we can easily keep in hand, and, with the development of the Empire, is continually growing. I could not possibly undertake any fresh departure.

In saying this I entirely sympathise with the object you have in view, and am most anxious to see this and every other minor rural industry encouraged, and I very much appreciate your kind offer of help.—W. C. THISELTON-DYER, Director.

WEATHER REPORT.

WESTBOURNE, Sussex, NOVEMBER, 1895.

Rainfall, 5·34 in.	Brightest Day, 13th, 7·3 hours.
Heaviest fall, ·58 on 4th.	Sunless Days, 9.
Rain fell on 24 days.	Below Average, 6·96 hours.
Above average, 1·73.	Mn. Maximum, 50·1°.
Maximum Temperature, 58° on 7th.	Mn. Minimum, 39·3°.
Minimum Temperature, 28° on 18th.	Mean Temperature, 44·7°.
Minimum on Grass, 26° on 18th.	Maximum Barometer, 30·39° on 18th.
Frosty Nights, 3.	Minimum Barometer, 29·20° on 11th.
Sunshine, 53·7 hours.	

L. B. BIRKETT.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[2315.] The work connected with the apiary at this period of the year is mostly of a preparatory kind, and the long winter evenings may be profitably employed in repairing or constructing various bee-appliances. Considering the capabilities of the average amateur, many things used are cheaper to buy ready-made, seeing how few are master of all the trades, like Kaiser Wilhelm II.

A Home-made Feeder.—For making a cheap "feeder," I commend the ordinary 1-lb. and 2-lb. glass-jars; then get a piece of zinc or tin, 4 in. square for the 1-lb., or 5 in. for a 5-lb. jar. Bend back two sides of the tin to the extent of ½ in., just far enough to clip the lip of jar on both sides tightly, so that no leakage will occur when the jar is inverted. To complete the feeder, drill or punch the required number of holes for fast or slow feeding, as required. Next cut a 2½ in. hole in a piece of, say, ½-in. wood. A bit of glass to cover the feed-hole in stage when refilling jars completes the feeder, and I use but few of any other kind. For making those of larger sizes a 3-lb. grocer's jam-bottle may be used, and makes a good strong feeder—cost nominal. Tins I have discarded after trial, as with them one cannot see whether food is taken down or not.

A Cheap and Efficient "Knife-heater."—Buy a used "snuff-tin" from a tobacconist or grocer (cost 1d.). These are well-made and don't leak; make two apertures in the lid for inserting the knives) each ⅜ in. wide and 1½ in. long. Next punch two small holes just below the lid, and through these holes run a piece of wire to form a handle. When filled with hot water this "heater" will answer every purpose by placing it on grate, stove, or over a lamp.

Wax and Wax Cappings.—After straining, I keep these in self-opening tins until "melting" time. When lids are on, these tins keep the contents secure. Odds and ends of dry wax are kept in a box with a lid until required for melting. A few lumps of naphthaline being always placed in the box, to guard against moths.

Prize List for '96 Dairy Show.—I have not written Mr. Brice to add my name to his list, but I know he takes it for granted that my "mite" may be counted on. Mr. F. H. Taylor's suggestion, on p. 484, of "a list with a 1s. limit," deserves the general support of bee-

keepers in all parts of the kingdom, and though we do not expect it to rank with the "W. G. Grace contribution," yet if all bee-keepers who have received "tips," "kinks," or even "chestnuts," nicely browned, from the pages of the BRITISH BEE JOURNAL will acknowledge their indebtedness, and plank down their "bob," a goodly sum will be forthcoming to strengthen the hands of our Central Association, and enable us to have a show worthy of the B.B.K.A. But why should there not be a "ladies' class?" We have lady bee-keepers, from our loved and honoured president, the Baroness Burdett-Coutts down to the humblest cottager's widow. All that is wanted is prompt action; and I trust the pages of the B.B.J. will show us that, ere long, a liberal response has been made to the proposals referred to.

Bee Houses versus Outside Hives.—This question, I should think, may be profitably discussed at this season. With no practical experience of bee-houses myself, I have read with interest many descriptions of them as used in America. On that vast continent those who keep bees in houses are in a small minority, yet some are very successful with them. There are some special advantages existing in "houses" compared with hives on outside stands, especially when the bee-location is some distance from home. Protection while manipulating in showery weather is a saving of time, especially to the busy man. Then the convenience of having everything under one roof is another saving, while the cheaper style of hives suitable for a bee-house, would, I think, reduce first cost to that of an apiary of single or double hives. In constructing a bee-house to hold, say, forty colonies, my preference would be for the honey or store-room in centre, with the bees in the wings; so as to utilise all sides of a span roof building. This I should have six feet to eaves, with match-board roof, covered with corrugated iron; thus allowing free ventilation to keep the interior moderately cool even in summer. The floor should be bricked, and the bottom row of hive resting on bricks; top one on a stout platform of scantling. The bottom row of entrances outside should have alighting boards extending to the ground. I would also have the wall outside painted in different colours. The top row of entrances outside could have hanging alighting boards (removable); large ones for summer and small ones for winter. These could also be painted different colours if desired.—W. WOODLEY, *Beedon, Newbury.*

ROOFS FOR BEE HOUSES.

2316.] "Norfolk Dumpling" (on p. 472), asks for the experience of bee-keepers as to the "best kind of roof for keeping out rain, snow," &c. I beg to give mine so far as regards the kind of roof which I think will be hard to beat, and the style of which is unusual, I think, as to its make. It is in my case used as a roof for a small bee-shed holding six hives. The roof is made from pine boards, about 3½ in. wide, by ¾ or ⅞ in. thick. These are machine *hollow-planed* boards and these with a stout strip to cover the joints make so many spouts down the roof, so that the slant of roof—6 ft. at the highest and 3 ft. at the back—runs off any storm of rain possible. The back faces the west, and is subject to storms with a direct blow of seventy to eighty miles, and since 1882 I never once knew a single drop to come through the roof.—W. G., *Rastrick, Yorks.*

FOUL BROOD MEASURES.

[2317.] I should have been very pleased to have concurred in the wish expressed by you and the combatants engaged in the foul-brood controversy that the correspondence should now cease, but my name having been introduced somewhat invidiously in the contribution of last week (p. 481), under the heading, "Come on, Macduff," I feel that I am justified in asking your indulgence to offer some remarks thereon.

It is necessary, for the sake of clearness, for me to say that I have reason to believe that the complimentary title of "Eminent Bee-master," used by Dr. Bartrum in his overflowing kindness, was intended to apply to me. Mr. Till turns this, probably inadvertently, into "Eminent Expert," and I may say, by the way, that they are both gratuitous and could be well dispensed with; and, but that circumstances—for which I am in no way responsible—require it, this explanation would not now be made, nor the matter alluded to.

Now, although I am in no way averse to being closely associated with Dr. Bartrum in his general ideas on bee-keeping; I quite fail to see why I am bracketted with him in the matter of foul brood! In the only contribution which I have made to the discussion I distinctly said that the conversation which I had with Dr. Bartrum on the subject did not result in precise agreement, and, as evidencing my soundness, it is quite well known that I formed one of the deputation which waited upon the President of the Board of Agriculture to press for legislative powers. Why, then, am I treated as an adversary? Mr. Till says, alluding to Dr. Bartrum and myself "now both are friends, they both hold heretical (?), opinions in regard to foul brood, and their practice accords with their doctrine. . . . but when bee-keepers are thus heretical they cannot help foul brood tracking their steps. You can trace them by the apiaries they start."

Herein is a grave charge, and to avoid notice of it would imply a want of courage and an admission of guilt. I therefore ask Mr. Till to disclose the facts upon which he bases so serious an imputation.

In conclusion, I may say that I know of no other cause of offence given by me than that I happen to differ with Mr. Till on the question of the cost of carrying out the provisions of the proposed measure; my estimate being at least half of what he deems necessary.—JESSE GARRATT, *Mopham, Kent, December* 2, 1895.

[Notwithstanding the editorial footnote, on page 482 of last week's issue, the reasons for our willingly inserting the above communication are so obvious as to need no further explanation.—EDS.]

EXPERIENCE OF AN ESSEX BEE-KEEPER.

3,900 LB. OF HONEY IN '95—"DO BEES PAY?"

[2318.] I have been a reader of your valuable BEE JOURNAL for the last five or six years, and during that time have received many useful hints from it. Seeing also that bee-keepers relate their experiences in its columns, it may not be out of place for me to relate the following:—

I started bee-keeping nine years ago with one bar-frame hive and three skeps, and at the present time have sixty-six stocks, all in frame-hives, well provided with stores, and snugly packed away for the winter.

I began the spring of this year with forty-five stocks, eight out of that number being in skeps.

Total amount of honey taken this season is 3,900 lb., besides selling twenty-six swarms and increasing my stocks to fifty-one. During this last autumn I have made up fifteen stocks from driven bees, making a total of sixty-six colonies for wintering.

In the spring I examine all my hives, and weed out all old combs, replacing them with full sheets of foundation. I then take a milk-pan, and chop up some straw into pieces two or three inches long, and during suitable weather pour into the pan and over the chopped straw a dozen or so pounds of syrup. I do this in the afternoons of warm days, as long as I think the bees require it, placing the syrup-pan about fifty yards away from the apiary. In this way I get my bees very strong by the time the honey harvest commences, and as I was this year quite surrounded with white clover, I had to keep the extractor going oftener sixteen than the much talked-of "eight hours" per day.

Of course the above plan of open-air feeding will not answer if you are surrounded by hives belonging to neighbours; but I have none nearer than a mile, and not many even at that distance.

From my best single hive this season, which did not swarm, I extracted 216 lb. of honey, and left them well provided with stores for winter. This hive holds thirteen frames in the brood chamber. It also had all surplus chambers filled with shallow frames of ready-drawn-out combs. I space all my shallow frames wide apart, putting eight where I formerly used ten; I find I get better returns that way. I use full sheets of foundation for brood and for shallow-frames and also for sections; it costs more, but, so far as my experience goes, it pays best. I help my bees all I possibly can, and keep each stock as strong in numbers as possible. I generally put two swarms, and sometimes three, in one hive, and at once put on supers, and find that is the best plan to get honey, especially in a poor season.

Some of the old skeppists will rather stifle their bees in the sulphur pit than let any one drive them. They generally shake their heads and say, "It's bad luck to part with the bees."

I am glad to say foul brood is a stranger to me, and, from what I have read, I hope it will always remain so. I have never come across a case, although I have been for some miles around bee-driving.

I cannot complain of my honey-selling experience, although I don't get such prices as I read of at different times in the BEE JOURNAL. I have sold, since June, 2,600 lb. I put it in the market as attractively as I can, and I find it pays for a little extra trouble, as where I sell once they write for more.

Hoping I have not taken up too much of your valuable space,—A. TWINN, *Apiary House, Ridgwell, Halstead, Essex.*

[We need hardly say that such encouraging reports of bee-work as the above are not only welcome, but useful, as showing what can be done by an intelligent and practical bee-keeper.—EDS.]

A LINCOLNSHIRE APIARY.

HOW I BECAME A BEE-KEEPER.

[2319.] I enclose two photographs of my apiary, "In Winter Quarters," 1893 and 1895; the latter one to show not only the increased number of stocks, but also the stand I have made for them to rest on. They were originally placed in the garden, but were removed thence to the bottom end of a paddock, which eventually was turned over and made into an orchard. The weeds, however, got the better of us, and the hives were almost smothered by them; besides which we had often the discomfort of standing on muddy, wet ground while manipulating. This winter, therefore, we got a large quantity of brick rubbish and old tiles, which were broken up small and laid evenly along the whole length of the hedge for a width of 7 ft. When levelled and rolled these were well tarred and covered with sand; the front having a border of garden tiles. The hives being placed in or about the middle of this "stand," there is ample room behind for the manipulator, while in front there is a clear space of 1½ ft. to 2 ft. through which, I trust, that weeds will be

unable to penetrate. The bricks are placed on the roofs all winter to prevent the latter being blown off during the high winds to which we are very subject about here.

The hives, as will be seen, though all "standard" size inside, are of various makes and patterns, and nearly all of different colours; they all also are capable of going at least one storey higher during the summer, as I work mostly for extracted honey.

As regards the past season, the results have been pretty good. I started with seven stocks, and now have twelve (two hives having two stocks in each), and have taken about 400 lb. of honey and 7 lb. of wax, 380 lb. being extracted. The best hive gave about 82 lb. extracted; this was the result of an experiment, as about June 1st I moved that hive about a mile and placed it in a field 10 acres in extent, and sown with white clover. I prevented swarming, by giving abundant super room, and by examining the brood-nest for queen-cells every six days; on one occasion finding ten cells started I destroyed them all and they were not reformed. The hive was brought home in September, and neither then, nor when the bees were first moved, did any bees return to their former location. In the spring I wrote you concerning some "constitutional effects of bee-stings," and another correspondent wrote having experienced the same alarming effects; it may interest you to hear that those effects have not been repeated, nor have I (as I was afraid) lost my nerve or confidence in manipulating.

I have had many hobbies, but never have had one so interesting or so deserving of study and care as bee-keeping, moreover it is the only one I ever had that *pays*. I was a most unwilling beginner though. Having lived in large towns all my school and college days, I was absolutely ignorant of bees and their ways when I came to live here. My predecessor on leaving could not take his bees with him, and having failed to find a purchaser in the locality, he spent some considerable time trying to talk me into buying them. He succeeded, I am glad to say, though after no little effort on his part. Having bought them (in the winter) I at once bought the "Guide Book" and subscribed to your valuable JOURNAL and *Record*; and as soon as I had an opportunity joined the County Association and profited greatly by the visits of experts, until having become one myself (3rd) I now hope to be able to give that help to others which was so willingly extended to me in the days of my novitiate. My thanks are also due to you for replies received to letters, both by post and in your columns.—PERCY SHARP, *Brant, Broughton, Lincs., November* 28.

As a postscript to my letter of a couple of days ago, let me say—I notice in this week's JOURNAL you say that you would place hives 6 ft. apart, and would not tolerate their being painted of different colours. Mine, as stated in my letter of the 28th inst., *are* mostly of different colours, no two hives of the same make being painted the same colour; and where two hives of the same colour are together, their external shape is very different. I adopted this plan in consequence of what I read in Prof. Cheshire's work, and also in Sir John Lubbock's work on Ants, Bees, and Wasps, where he demonstrates that the colour-sense is present in bees. Also in consequence, through want of space, of my being unable to place the hives more than one yard apart from the centre of one entrance to that of the next. I think the variety of colours no detriment from an artistic point of view, and have never yet lost a queen when returning from mating.—P. S.

MORE "CHESTNUTS."

[2320.] *Are Queens Raised from Eggs or Larvæ?*—While this interesting subject was being discussed in your columns I followed it with very great interest, but, owing to the whole of my time being absorbed in visiting and helping the numerous new members, and giving weekly, and almost daily, instruction to them here, I could not take part in the discussion at the moment. However, after making "a mental note of it on a bit of paper," I resolved during the coming winter to throw what little light I could on the matter. And now, on turning up my diary, I glean the following: — "May 27. Made artificial swarm." I do not know if it will interest readers—perhaps it may beginners—to know how this was done, but my *modus* was as follows:—From a very strong hive—possessing exceptionally fine drones and a young queen of a very good strain—I took two combs, well filled with brood in all stages of development, and a number of eggs. Shaking therefrom every bee, I placed them in another hive on the *old stand*. To the old hive I gave in exchange two full sheets of foundation, and put three drawn-out combs and a frame of foundation in the new one. The old hive was then removed thirty yards away. Being a glorious day with bees flying freely, I had not long to wait for my swarm. In half-an-hour four of the frames were covered, still there did not appear any excitement, the bees coming and going, and bringing in pollen as usual. It was not till the following day that I observed the outward signs which synchronise with the extraordinary inward activity of "raising a new queen." Thus, I think I am right in presuming that it was not until May 28 that the bees set about this work. On June 3, explaining the process of artificial swarming and queen-raising to a neophyte, I examined the hive, and found four queen-cells —three of which were sealed, and one not.

Now, had these three sealed cells been built round eggs, or supplied with them, this could not possibly have occurred, for "the cell is sealed over on the ninth day." Yet here we have them in that condition on the sixth: or, granting they were made on May 27, which I do not think likely—the seventh day. From this I think that the only conclusion to be drawn is that the bees built the royal cells round *larvæ*. And in the case of the unsealed cell—in which there was a young grub—they were raising a queen from the egg, on the off-chance of the others failing. So much for proof one. But let us go to the end, and we shall see further that the hatching out of the *imago* fully confirmed the theory that bees by preference elect their sovereign—in such cases—from the larvæ and not the egg. My diary then reads:—"June 11 (morning), picked up virgin queen, dead, in front of the hive. Later in the day, 5 p.m., picked up another queen, which bore unmistakable signs of having recently been fertilised." Now, here on the fourteenth day we have two surplus queens, and, most probably—these two being remarkably fine ones—the elected sovereign would be the first born, and as queens do not go out to meet the drones the very day they are born, the fact of one of them being fertilised shows that the elected one must have been so, and, consequently, have been born several days previously. The above appears to me very conclusive, and I think the bees themselves can give an answer to the query, "Why do they appear to prefer to raise queens from larvæ instead of eggs?" The answer is very easy—"Because we want a queen as soon as we can get one, and by taking the three-day-old larvæ, which has not been weaned, we get her six days sooner than we should by taking a newly-deposited egg," and we may also imagine our wise little friends adding:—"Six days breeding is a very important item with us, as you modern bee-keepers are aware."

Prevention of Drone-breeding.—The *nostrum* generally recommended for this end is "full sheets of worker foundation." Certainly this tends to minimise the evil; but my own observations trend to the belief that if bees wish to swarm or raise drones they will make drone-comb even in the very centre of a sheet of worker foundation. I have had frequent instances of it, but will only enumerate one. In the spring of '93 I removed an outside frame containing drone-comb with newly-deposited eggs. In return I placed near the centre of the brood-nest a frame containing a full sheet of worker foundation, the middle of which they made into drone-combs, the cells above and below being worker. We must seek another remedy if we need it. Personally, so long as they are kept at a minimum, I don't mind—the safest means of preventing swarming being plenty of room and young queens.—FREDERICK H. TAYLOR, *Birch Fold Cottage, Old Hall lane, Fallowfield, November* 23, 1895.

THE SCOTTISH BEE-KEEPERS' ASSOCIATION.

[2321.] My query *re* above society on p. 441 has now borne fruit, and in your last (2310, p. 483) the Rev. R. McClelland throws some light on the cause why it has gone into "winter quarters," for I trust it is only a species of hybernating that has been going on for the past year. Bearing in mind the rev. gentleman's generous offer to act as secretary, it need be so no more, and the reviving spring of 1896 should see new life infused, and the merry hum of active work should be heard from our hive, headed by the "right man in the right place." The inner ring may have more information on the subject; but, to one outside that charmed circle, it seems inexplicable why a society in so flourishing a position, and doing such excellent work, should be cut off suddenly, without any apparent reason, in the heyday of its youth and prosperity. All will acknowledge with grateful thanks the admirable work done by Sir Thomas G. Carmichael; but I entirely fail to see why the retirement of any one man, however important he may be, should cause collapse and chaos in a society numbering so many members. Let Mr. McClelland call his undoubted zeal and energy into play. Let him communicate with all the members of committee and every other prominent bee-man possible. Let them call a meeting and make an earnest endeavour to resuscitate the now slumbering society. In this good work he will have the passive sympathy, and, in the way of doubling subscriptions (even for a number of years), the active support of at least one MEMBER OF THE S.B.K.A., *Banffshire, N.B., October* 29, 1895.

PREPARING BEES FOR THE HEATHER.

[2322.] For my own part, I should be much interested if those who are in the habit of sending bees to the heather would give us some of their experiences. Could they tell us, for instance, what likelihood there is of bees swarming at the heather? Thus Mr. George Rochester in B.B.J. for November 28 (2302, 479) implies that if, while bees are at the heather, the brood-chambers are contracted, there is danger of swarming. Is not swarming over by the middle of August? In this neighbourhood we consider that after the end of June or the first week in July no more swarms will issue; but if the bees were sent to the heather at the begining of August, and there was a good flow of honey, is there a likelihood of swarming? Again, could they tell us at what time it is best to send the bees to the heather? Is it advisable to send them to the new locality some days before the flow of heather honey begins? In this district the regular honey flow ceases suddenly about

the second or third week of July, and the ling is not in flower till at least three weeks later. Whether the hives are here or at the heather during these three weeks the bees would make no honey; but, if the bees were at the heather, might not the queen be more inclined to continue laying eggs with a view to the coming flow of heather honey? Once more, which hives should be sent? The answer, of course, is "Your strongest hives"; but is it not often the case that your hive which has done best early in the season, and is perhaps still your strongest at the middle or the end of July, contains a queen who has done her year's work and is by this time not laying so well? I notice, for instance, that in Mr. Rochester's list of hives (B.B.J. 2302) the hive that made most clover honey made *least* heather honey; that which did second-best at the clover was second-worst at the heather; that which was third-best at the clover was third-worst at the heather. I suppose the proper course would be to examine the hives two or three weeks before the flow of heather honey, and select for sending to the heather those hives which at that date have most sealed brood. In the southern counties, where the season begins early, it is difficult to have the hive strong both in June and August. Would it be possible to re-queen the hives before sending them to the heather?

There is heather within five miles of my bees, to which I sent two hives last year, but with very poor results. It was no use to try again this year, as the severe winter of '94-5 cut the heather down to the ground; but I intend to send some hives next year, though Mr. Webster's letters warn me not to expect much from south-country heather. — A BEGINNER, *near Winchfield, Hants.*

PREVENTION OF SWARMING.

[2323.] Nothing is more certain than the fact that no mechanical supplementary apparatus will ever prevent the *issue* of swarms, and it is almost as certain that no such appendage to hives will remain in use for the proposed purpose of catching swarms.

Most of the so-called swarm-catchers in use are in a greater or less degree a development of Henry Alley's drone and queen trap, than which there is nothing more simple for the use of those who have to leave home or are unable to manage their bees without swarming. The queen cannot be lost, while the bees generally return to the same hive, so that the owner has plenty of time to put the stock in order.

What is wanted, and that which I have advocated for more than ten years past, is the adaptation of simple brood chambers and their frames in such a manner that the bees are never over-crowded—even when working for comb honey—and that they shall always have something to do, and room wherein to do it. Let the space so provided allow of the most perfect ventilation from the mere fact of the vacant space under the brood nest; use only young queens; and then, with one more provision, the bee-keeper need fear little trouble or worry from swarming.

That other important point is forthcoming when I state that the stocks which give most trouble in swarming are those, which, without being weakly, are *not in full working condition early in the season.*

Given the foregoing conditions, as fully explained by myself in the past, it will be found that those stocks which are very early—those which delight the eyes of the owner by white, newly-shaped cappings to the cells near the top bars of the frames in the month of April—are those which can be depended upon to do the real work of the season; and rarely troubling to swarm when worked on what is known as my non-swarming plan. Their business is honey, and honey they will get, when more backward stocks would starve without feeding. Why? Solely because the latter have too large a proportion of young bees and an excessive quantity of brood, which together dispose of ten to fifteen pounds of honey per week. These must swarm—there is no alternative with such a superabundance of consumers that keep the stores low—and so leave the queen free to do as she likes.

By all means secure stocks crammed with bees, but see that they are in that condition ready for the earliest possible flow. How early that may be few realise until they have stocks ready and waiting for it. Why the difference? It is to be found by examination of the combs. The early stock maintains a large adult population of real workers far in excess of the number of consumers: the stock combs are gradually stored with honey and largely with pollen, to the partial restriction of the queen, so that the hatching of young thereafter only keeps pace with the wear and tear on the adult population; there is little inclination to swarm, and absolutely no need for a queen excluder.

Just here I would point out the folly of extracting from the stock combs. How frequently has the bee-keeper been advised to extract the honey from the brood nest when it appeared to be crowded with honey! Why not rather show him how to induce the bees to place it directly into the surplus receptacles, by securing early stocks that will always do it; by uniting if necessary to secure that strength in time; and by warmth above with ample ventilation below. And should the combs be really crowded, what more rational and profitable proceeding can be adopted than that of removing the outer clogged combs, storing them for winter use, while placing new sheets of foundation in the centre?

But to come now to the difficulties of some who have tried my non-swarming plan, perhaps a few hints may be of use to those who

have made inquiries through the journals and by private correspondence. To begin with, it appears to be taken as a principle in management that the empty frames in front of or under the brood-combs are arranged expressly that the bees may build combs therein for the bee-keeper to be constantly removing. This is an erroneous conclusion, and readers of "Modern Bee Farm" will find, by referring to page 116, the following sentence :—"The true principle of management consists in so manipulating the supers that none of the frames with starters have finished combs all the season."

Yes, that is the point; see that the comb-building and storing is all done in the supers; not below, where it is not wanted, and where the open chamber is allowed as a "safety valve"—a prevention of over-heating; and a complete cure for the clustering of idle bees on the door-step. Many reports come in from private correspondents showing that nothing whatever was built in the frames below, while work proceeded rapidly in the supers, and this is what will generally be found where my directions are carefully followed.—S. SIMMINS.

(Conclusion in our next.)

BEES IN NORTHANTS.

ANOTHER SUCCESS IN '95.

[2324.] I send you a short report of my bee-doings for 1895. It has been another successful time, so far as my own bees are concerned. I began the season with seven stocks, two double-queened and five single ones. I have had four swarms, and one lost. I sold one swarm, and one ditto put in new hive, and the other two swarms and the lost returned. My take of honey has been as follows :—

		Extracted Honey. lb.	Sections.	Total lb.
1.	Double-queened stock ..	181	8	189
2.	Single ,, ,, ..	2	75	77
3.	,, ,, ..	2	41	43
4.	,, ,, ..	2	39	41
5.	,, ,, ..	18	47	65
6.	Double-queened stock ..	258	22	280
7.	Single ,, ,, ..	94	*23	117
8.	,, 1895 swarm ..	8	21	29
8	Total hives, as above ..	565	276	841

* Glass super.

The above shows an average of 105 lb. per hive, with swarm included. I think this must be a capital situation for bees, judging by my last three years, which have all been very successful. I have put my bees (eight stocks) into winter quarters without any feeding this time, with the exception of one stock, which required 12 lb. of food. All stocks are now in good trim, with plenty of stores.

Other bees in the neighbourhood have done fairly well.—W. TUSTAIN, *Farthinghoe Station, Northants, November* 23.

Echoes from the Hives.

Honey Cott, Weston, Leamington, November 30, 1895.—So far as the season has gone, bees have had many chances to be out and on the wing, and as all stocks are well provisioned, they are in a fair way to stand the winter, come what may. For myself I like to see them get a good fly for an hour or two once in every two or three weeks. Honey seems to be selling in a very satisfactory manner, and by the time frost comes I daresay there will be still more inquiry for it. I was sorry to read of the death of Mr. Huckle, and as far as I can recollect, there are children who are, I should think, as yet quite unable to do anything for themselves.—JOHN WALTON.

Queries and Replies.

[1400.] *Bromine and Foul Brood.*—In the interesting and useful communication from the Rev. G. W. Bancks on bromine as a disinfecting agent in cases of foul brood, he states that "two years ago his apiary contained fifteen diseased hives." Now, I ask, how would these be treated under the proposed new law? Destroyed, and compensation given? If not, what course would be taken? We want more light and less rhetoric.—PUZZLED.

REPLY.—We think the reply to our correspondent's queries will be found in the substance of the suggestions proposed to be incorporated in the Bill for obtaining compulsory powers (*vide* B.J. of Jan. 31, 1895, p. 42). If that Bill became law the inspector would in the exercise of his discretion—or in the light of his experience—apply remedial measures, and cure if possible. In the event of failure to cure—whether from the steps taken being ineffective or through the obstinacy of the owner—the bees would be destroyed.

[1401.]—*Second-hand Hives and Foul Brood.*—Having purchased some bar frame hives with a lot of old combs therein, of which I send sample, will you kindly say if it is free from foul brood, having previously asked the seller if such was the case when he replied in the negative? Sample I send you by post. Having washed hives and frames in a copper of boiling water, letting them remain in awhile, then afterwards washed with Condy's Fluid, would they be safe next season to use, or would you recommend further treatment?—KENT.

REPLY.—There is nothing in the crushed up old comb to indicate disease; in fact, only a tedious microscopic examination would detect germs of any kind in the sample. If, however,

the assurance of the seller is worth anything, we should not hesitate to use the hives after the disinfecting process they have been put through.

[1402.] *Self-hivers and Swarming.* — Last season I bought one of Hole's self-hivers which I put on a stock expected to swarm, as they had drones flying for several days before. I left "hiver" on all the summer, but the bees did not swarm, though the hive was quite full and they had begun queen-cells. During the whole summer they went on breeding drones, I expect to take the place of those removed from top of "hiver." Can you explain why they did not swarm? Would the constant breeding of drones to take the place of those that were caught in a trap tend to stop the hive from swarming?—H. W. Cox, *Sheffield.*

Reply.—We have no means of arriving at a safe reply to the above query. An inspection of the hive during the season might have set the matter at rest, but from the bare details given we are as much in the dark as our correspondent.

[1403.] *Sealing-wax and Bees-wax.*—I use a considerable amount of sealing-wax in packing honey, &c., for the market, and have more or less bees-wax to dispose of every year. This being so, I thought that if sealing-wax is made from bees-wax, it might save something to myself, and perhaps others, if we could make our own. If you have any information at your command for making sealing-wax, and could publish the same in your valuable journal, it would be adding another act of kindness to bee-keepers at large.—A Bee-Keeper, *Maidstone, November* 27.

Reply.—We have no recipe by us for making sealing-wax, which is a compound of resinous materials, pigments, &c., one of the main ingredients being a common kind of shellac. After comparing the present market price of sealing-wax and of bees-wax, our correspondent may safely assume that the latter forms (if any) a very small part in the composition of sealing-wax.

[1404.] *Queen Flying in November.*—Yesterday, 26th ult., I was watching the bees flying from one of my hives, which I thought to be queenless, when my attention was attracted to a queen bee (enclosed) circling round the hive. I caught it and put it on the flight board, when it was seized by a worker and thrown off. I lost sight of it after it got up and flew. I examined a large board this morning in front of the hive, and found the queen dead. It seems strange, to my mind, that bees, so late as November 26, should rear a young queen.—T. Hastwell, *Borness-on-Windermere.*

Reply.—The fact of the bees killing the queen would seem to indicate that she was a stranger; there therefore may possibly still be a queen in the hive. We have little doubt that the one sent is a virgin; it is, however, difficult to arrive at a satisfactory conclusion without examination, and although queenless bees will raise a queen at all times during mild spells (provided they have the materials), we cannot advise interference with the bees now. We should leave them alone until the return of bee weather.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Jno. H. Hall (Sheffield.) *Mead Making.*—Full particulars for making mead will be found in B.J. for February 28 last (page 83), or in our issue of April 19, last year (page 153). Mr. Bancks's pamphlet also (as advertised in our present issue), deals very fully with the subject of mead-making.

Sannyer Atkin (Highgate.) *Names of Contributors.*—We quite agree that in some cases the ordinary rule might with advantage be altered, and it is probable it may be done in new vol. for '96. Thanks for suggestion.

W. S. Trapp (Norwich.) *Badly-Fitting Outer-cases to Hives.*—The fault complained of is decidedly that of the maker, not the hive. Unless outer-cases are made to fit properly so as to exclude bees, very many troubles and worse mischief may arise in other directions than the one named.

W. T. L. (Teignmouth).—*Beet Sugar.*—The evil of using beet-root sugar for bee-food arises mainly from the chemicals used in the manufacture of beet-sugar. The article sent in no way alters this fact or lessens the need of pure cane-sugar for bees' use.

F. McConnell (Carlisle).—*Eucalyptus Honey.*—We thank you very much for article on the above, and will take an early opportunity of utilising it in our pages.

A Duffer (Longparish). — *Exhibitors Awards.* — We share our correspondent's annoyance at the mistake in placing the award card, but feel that he will agree with us as to where the fault lay.

Several Articles, together with some Queries, are in type, and will appear next week.

Editorial Notices, &c.

HUNTS BEE-KEEPERS' ASSOCIATION.

On Saturday, the 30th ult., a *conversazione* was held in the Town-hall, Huntingdon, in connection with the Hunts Bee-keepers' Association, when the prizes awarded at the annual show were distributed. The meeting was held in the Council Chamber, which was well filled, and in front of the platform was a handsome trophy of honey in sections and bottles, erected by Messrs. Howard and W. H. Woods, which, it was announced, would be presented to Mr. A. W. Marshall, vice-president of the association, and a former mayor of the borough, on behalf of the members. Mr. G. J. Rust presided, and among those present were Mr. A. H. Smith-Barry, M.P., the Ven. Archdeacon Vesey, Rev. H. S. Budge, Rev. G. Thompson, Messrs. J. S. Smith (Mayor of Huntingdon), A. W. Marshall, H. Goodman, G. Thackray, C. N. White (hon. sec.), T. A. Clark, J. Pascoe, J. White, Hazlitt, Jackson, Allison, Harrison, Hicks, and F. B. Thackray; several ladies were also present.

The Chairman briefly announced the object of the meeting, and called upon Mr. Smith-Barry, who had to leave by an early train, to say a few words.

Mr. Smith-Barry said he knew a great deal more about honey-eating than he did about its production, but he felt it was of the greatest importance that bee-keeping should be encouraged and developed in this country, and that everything in connection with bee-keeping should be thoroughly and scientifically taught and understood. Apiculture was a very great advantage to the agricultural classes of the community, because bees did a great deal more than produce honey; they were very active fertilisers of many plants, which formed a large proportion of our crops. They were suffering at the present time very largely from agricultural depression, and it was of the highest importance that they should do anything they could, directly or indirectly, to improve their system of agriculture, and to produce greater profits for those engaged in it. But it was especially upon the ground that bee-keeping and the sale of honey were of great advantage to cottage gardeners that he thought they ought to support it, and to give it every encouragement.

Mr. C. N. White (Hon. Sec.) then stated that letters regretting their inability to attend had been received from Lord Sandwich (President), and other gentlemen interested in the association, after which the Chairman distributed the prizes won at the annual show of the association to the successful competitors in the respective classes, viz.: Mrs. Allpress, Messrs. R. Brown, W. H. Woods, H. J. Bull, J. Osborne, W. R. Billing, A. Sharp, E. Allen, W. Woods, B. Bull, H. Seamark, and W. Ellis.

The Chairman also announced that the silver cup (given by the Members of Parliament for the county) which had been won by Mr. W. H. Woods, would be presented at the annual meeting in January, also the silver medal won by Mr. R. Brown, the bronze medal won by W. H. Woods, and certificate by Mr. Ellis.

Mr. White, who had been delegated by the donors of the trophy of honey referred to above to make the presentation, which he did, spoke in very appreciative terms of the services rendered to their association by Mr. Marshall, to whom, he said, they were indebted for a large portion of their success.

Mr. Marshall, in acknowledgment, expressed the great pleasure it afforded him to accept the very handsome trophy of honey presented by Mr. White on behalf of the Hunts Bee-Keepers' Association.

Mr. J. H. Howard thoroughly endorsed all that had been said of Mr. Marshall, but he observed there was one other gentleman who had been a worthy member, and who at all times was ready to lead a forlorn hope, and that was their hon. secretary, Mr. White. He therefore begged, on behalf of a few fellow members, along with himself, to offer their friend a small token of their recognition of his services. Mr. Howard then presented Mr. White with a handsomely-bound volume entitled, "The Natural History of British Butterflies and Moths," by the late Edward Newman.

Mr. White in a few appropriate words returned thanks for the honour done him, and the meeting closed with the usual vote of thanks to the chairman for presiding.

The meeting then resolved itself into a very enjoyable social gathering, and it is to be hoped will result in a considerably increased interest in the work of the association.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTANDA ET INQUIRENDA.

WAX RENDERING—PREVENTING SWARMING—"DRIVING."

[2325.] I am sorry my title is one of those which are stumbling blocks to "Plane Inglesh" (2301, p. 476). I used Latin instead of English simply for two reasons:—1. The usual headings of "Notes," "Notes by the Way," "Jottings," &c., are all, more or less, hackneyed and are besides appropriated already, and I could not think of any that would exactly

suit my purpose and express my meaning. Because (2) what I desired to head my contributions to bee literature with was not "Notes and Queries," but "Points Worth Noting and Inquiring Further Into"—and this long English sentence the Latin expresses in two words. So, now I have explained, I must ask forgiveness for continuing the use of the obnoxious signboard. With all deference to "Plane Inglesh," and, joking apart, it will be a bad day for the B.B.J. if the style of its contents should ever be brought down to the level of its illiterate readers *exclusively*. In my own judgment—and I am an editor myself—the Editors of the B.B.J. provide in a truly admirable manner for the varying needs of the necessarily very numerous classes of their readers.

Wax Rendering.—I am glad "John Brown" (2308, p. 482) has found my "tip" useful. I was extremely glad to find it out for myself. It came just in time, for I was beginning to boil over worse than my wax with pent-up wrath and annoyance. Had I only seen it anywhere in print, it would have saved me a lot of trouble, a deal of temper, and a heap of wax.

Wax Cappings.—Whenever the bees will condescend to clean these up I put them in a large shallow dish, and place this on the ground, well away from the hives; and in a very few hours they will be perfectly dry. During the honey-flow, when the bees will not deign to look at them, even if placed close to the floor-boards, I put them in a deepish dish, scoop and pat and press them up into a firm cake with a spoon, tilt the dish a little, and let them drain for a few days. Nearly every drop of honey will be found to come away.

"John Brown's" plan of rendering the wax without allowing any water to touch the cappings is, I am convinced, the best, and will yield the best-coloured wax. Any dross can easily be cleared away from the underside of the cake, as I have elsewhere stated, *when hot*; and one melting should suffice—possibly without even straining. But of this I cannot be certain until extracting-time comes round again next year, and I can experiment further, and satisfy myself.

Preventing Swarming.—I note Mr. Bent's (2309, p. 483) kind reply to my inquiry as to some cheap and easy method of shading hives. The objections to "raising the front of (*my*) hives one inch" are threefold. (1.) We are usually sadly pestered with wasps, and I should place my bees at the mercy of their worst enemies, in my experience. (2.) I have many ricks in my neighbourhood, which every now and then send us a plague of mice. In a week or two this summer we killed over a hundred who were trying desperately to enter and stay in my house. Again, I should fear for my bees, which hitherto have not suffered. (3.) I should fear for myself. I am pretty fearless too, having reduced my hives to order under some particularly lively conditions, but to tackle my black bees while they enjoyed such unlimited power of egress would probably be long remembered by the operator. All the same, I am much obliged for the hints, which may yet be useful.

Probably, the wet sack is the most practical, for me; but I shall not rest till I have found a satisfactory working solution. Just now my thoughts are turning in the direction of sheets of corrugated iron, projecting beyond roofs on all sides, slightly bent to their shape, and just laid on top of them. But then I also have in mind some awful gales! and how then? To be constantly doing up and undoing fastenings is much too troublesome.

Irascibility.—I promised to give some illustrations of this—on the part of the bees, not of myself, of course. I will do so under side-headings;—

In Driving.—Why is it that no directions for "driving" bees give you any warning that when you turn the skep over the bees may come at you in their hundreds? Yet this is sufficiently possible and serious to make a caution very necessary.

I have now driven bees for three years. The first year I drove five lots, the second three lots (both these from one place), this autumn five lots (two from a new place, three from the old quarter). I have, I am quite willing to admit, never seen a skep driven or a hive handled, but I have read everything on the subject I can get hold of. I have been careful and gentle, and am by nature humane, and have succeeded in managing my hives fairly well. But on every occasion of "driving" bees, while following exactly the same procedure so far as I am aware, the bees of different skeps have behaved with startling differences of temper. One or two lots have been as quiet and manageable as flies. Others have been a little troublesome when first the skep has been turned over. But each time the occupants of at least one skep have behaved as if possessed by all the furies. They have settled in clouds all over myself and the lad who assists me, stinging and returning again and again to the charge, so that if we had not been, happily, thoroughly well protected and actually invulnerable, the consequences might have been extremely serious, in spite of smokers, carbolic acid, and all the rest of it.

Is this merely the effect of "a fine spirit" in that particular lot of bees? If so, I should very much like to know its signs, so as to discern it beforehand. It is remarkably disconcerting; especially when a number of admiring (?) spectators are watching your proceedings from a safe distance, and comment in a free and easy style upon any mishaps. If I had not used a great deal of forethought and precaution, some very untoward results might more than once have ensued. Certainly, "driving" should never be undertaken in a light and careless mood.

To forestall useless criticism, I may say that I have invariably given the regulation puffs of smoke, and waited, &c., as usually recommended. It answered perfectly in some cases, disastrously in others. Why?—SELF TAUGHT, *November* 29, 1895.

[In reply to the query with which our correspondent closes his interesting communication—and as in some degree defending the course followed in giving "directions for driving bees"—we are glad to note that he has "never seen a skep driven." This is a point *not* overlooked in such directions as we have had to do with, and it is by us always urged that "half an hour's observation of a skilful bee-master at work, is worth any amount of reading." Personally we should never dream of using any protection whatever when driving bees, and after many hundreds of "drivings" have never been attacked as stated. Nor is our own experience at all uncommon, but may be verified by any well-known expert.—EDS.]

A COTTAGER'S BEE-KEEPING.

A GOOD HARVEST IN 1895.

[2326.] With your kind permission I will give you my experience as a cottager bee-keeper at Newmarket. I began ten years ago by securing a stray swarm, which I put into a straw skep. Having told a friend that I had got a swarm of bees, he persuaded me to adopt the bar-frame hive, which I first did in the year following, although, at the same time, I regarded my friend's account as to the large "takes" of honey got from frame-hives as a bit of romancing, or something of a fairy tale. I am pleased to say, however, that I have exceeded the estimates there given many times. My apiary stands in the centre of some large stud-paddocks used for breeding race-horses. These paddocks are largely laid down with white clover, which is the chief source of our honey supply. We have also some lime trees and sainfoin, but no heather.

My "take" of honey in 1893 was 11 cwt., or 1,232 lb. of honey, from fifteen hives. This year I have taken 2,096 lb. from twenty-three hives, spring count. Two of the above gave me 150 lb. each, and a "Wells" hive yielded 300 lb. The lowest take from one stock was 50 lb. From a swarm which issued on June 6 I got sixty perfect sections.

I have sold all my honey locally with the exception of 500 lb., and this I advertised for sale in the B.J., which soon found me a customer for same. I think it very encouraging to have a good yield of honey and a good sale at a fair price, and cannot understand people not being able to sell their produce.

I make all my own hives in my spare time; being a postman I come under the eight-hours-a-day system, so I have sufficient time to do this work in. I am a strong believer in Mr. Wm. Woodley's plan of exercising strict economy in the management of my apiary and have profited in various ways by reading his notes by the way.—CHARLES CARTER, *Gwynne Apiary, Newmarket, December* 7.

"WELLS" HIVES.

MY EXPERIENCE OF THE "WELLS SYSTEM," AND OF QUEEN RAISING.

[2327.] I have been looking for Mr. Wells's annual account of his bee doings for 1895; but, though so far it has not appeared, I hope it will not fail us. For myself, I bought a "Wells" hive in May, 1893, and about the same time I put two swarms into another big hive, and managed it on same principle, so that I have worked the double-queened hives according to Mr. Wells's directions so far as I could, but have not succeeded in making one "Wells" show better, or even as good, results as two single-queened hives. I put the bees of two strong single stocks into the "Wells" hive referred to above early in June, '93, and immediately put on a surplus chamber filled with frames of foundation and partly worked-out combs. The bees took possession directly, and swarmed in the course of a week. I removed the two queens, and put the swarms back, after cutting out the surplus queen-cells. The bees did not swarm again, but worked away pretty well in the super, and gave a fair return of honey, though not so good in proportion as my single hives.

Towards the close of the season I observed that the bees were using only one entrance, and so, fearing something wrong, I lifted off the super, and found one compartment queenless, and nearly beeless, and so ended 1893.

In the spring of '94 I transferred the bees from a single hive into the empty end, and from the doubled stock of the above hive in that year got eighteen standard frames well filled with honey, and a second lot of drawn-out combs, and a few pounds of honey in them. The bees did not swarm, and went into winter quarters for 1894-5 with a fair amount of natural stores. In the spring of 1895, though both lots were clustered against the dummy-board, neither of the queens commenced to lay early or fast—perhaps the hard winter might account for this—and when the two compartments of the "Wells" hive had brood on seven combs and five combs respectively, in my best two single stocks examined on same day I found brood on nine combs in one and eight combs in the other. At the close of the honey season my "Wells" hive had one tier of standard combs about three parts filled with honey, while from two single-queened hives worked for the extractor I got from one a tier of combs well filled and sealed (several weighing 7 lb. and 8 lb.); the other yielded one tier well filled, and a second with about 20 lb. in it. My "Wells" swarmed early in June. I removed both queens, and

put bees back; but they swarmed again in ten or twelve days, and clustered in two portions. I gave one lot to a friend, and returned the other, after cutting out queen-cells. After a time I found east end of the "Wells" again queenless. The two entrances are not far apart, though there is an outside dividing-board between them, and I suppose both queens entered the same compartment after mating.

The friend to whom I gave the swarm has had a "Wells" hive working for two seasons, and his experience has been very like mine. Last year his hive swarmed, and one end became queenless. He took the remaining bees out of it, and this last summer furnished it with two swarms, the second of which was added a fortnight after the first one. The queen of the first lot was laying well, brood showing on several combs when the second swarm was put into the other compartment. On examining both divisions some days after neither eggs nor young brood was found in either. We concluded that the queen of second lot had gone to the wrong entrance when returning from her mating trip and had killed the laying queen. Curiously enough, my friend found eggs in both compartments after a time, but being convinced that the first queen was killed—and having observed that a good proportion of her now hatching progeny were marked like Italians—he waited with interest for the hatching out of the later lot of brood, and sure enough they were all blacks, thus confirming our impression. Now, we saw three queens go in with the last-named swarm, which was got from me, and, if we are right in our premises, the bees must have kept two of the queens alive for a time, and when returning from her mating flight one had found its way to the wrong entrance and been killed!

Queen-Raising.—If space allows I would like to describe my attempt at queen-raising. I got an Italian queen about mid-July this year, and on observing, at nearly the end of August, a lot of drones in the hive to which I had introduced her, I determined to try the business, proceeding as follows:—I removed the queen with two combs of brood and adhering bees, leaving other four or five combs with brood on them on the parent hive. The bees built five queen-cells, two of which were on a comb half full of drone brood. On examining the hive some days afterwards, I could only find two of the five cells, one (unsealed) on the face of the drone comb, the other (which was capped over) on another comb. About eight days later I looked again, and found neither cell hatched out. I put a queen cage over the latest sealed one, and covered all up again. Next day, finding the *first sealed* cell hatched, I searched for and caught the young queen, putting her in a nucleus hive from which I had recently taken the queen. I then took away cage from the other queen-cell, leaving the hive undisturbed for two or three days, when I examined and found the cell still sealed over. Thinking there must be something wrong, I gently uncapped the cell with my penknife and found in it a big white drone! It was a properly-formed queen-cell, and as there were worker eggs and brood in plenty, why did the bees build the cell round a drone egg? The hive was now queenless, so I took the young queen from the nucleus and re-transferred her to her mother hive. Unfortunately, however, she was still unmated, and, after flying out next day to meet the drones, she went back to the nucleus, where I left her until she became fertilised. Meantime, the bees in stock hive were killing their drones. Being, therefore, uncertain as to whether they might not have another queen, I gave them a comb with eggs and brood. In a few days queen-cells were found, and so, thinking I had better put my old queen back into the hive, I caged her for half an hour then I let her run in, and next day found her lying dead on the flight-board, through my forgetting to destroy queen-cells! After doing so, I introduced the young queen, her daughter, and the bees took to her all right. I saw her fly several times from the nucleus hive, and during the warm week we had in September I saw her fly in with the marks of fertilisation on her, and, after a few days she commenced to lay, but the cold coming on soon stopped her.—D. M., *Alyth, Perthshire, December* 4.

LAYING WORKERS.

DO THEY DEPOSIT EGGS INDISCRIMINATELY?

[2328.] Mr. H. W. Brice says (2243, p. 428) "a laying worker will deposit eggs in worker and drone cells indiscriminately." I am not able to prove Mr. Brice is in the wrong, but I have such faith in his carefulness as an observer, and such faith also in his fairness, that I want to ask him to take the trouble to prove himself wrong.

It is a well-known fact, I think, that when laying workers are present it is common to find a plurality of eggs, sometimes as many as a dozen, in a queen cell, and one of the common signs of their presence is the finding drone cells with more than one egg in each cell. On the other hand, I have known cases of laying workers in which eggs were laid only in worker cells, and the work was just as regular as that of a queen, only one egg being laid in a cell.

I once saw a laying worker in the act of laying an egg—the only case I ever saw, and when she thrust her short abdomen down in the cell her wings were pushed up about her thorax in a very uncomfortable-looking way. Now I'll venture to theorise a little:—As between the three different kinds of cells—queen, worker, and drone—the queen cell is the one that can be used by a laying worker with the greatest degree of comfort, and will be first

used. More than once I have diagnosed the presence of laying workers by finding no eggs in a hive except one in a queen cell. Sometimes a number of eggs will be laid in the queen cell before the less comfortable drone cells are used. Rather than use a worker cell, drone cells will be used over again, and only after they become scarce are worker cells used. If no queen or drone cells are present, then, perforce, worker cells must be used. As they are present in great numbers there is no need to put more than one egg in a cell, so they are filled just as a normal queen would fill them, unless it be that some of the eggs are laid on the side instead of the bottom of the cell. Now there's my theory, friend Brice, and if you think it worth while you can prove or disprove it. If I am right, then, instead of using worker and drone cells indiscriminately, worker cells will only be used when the supply of larger cells runs short.

As against the theory, I have an indistinct impression that I have sometimes seen drone cells with more than one egg, while around them were other drone cells unoccupied. But did you ever see laying workers put a whole pile of eggs in a worker cell?—C. C. Miller, *Marengo, Illinois, November* 15, 1895.

WAX CAPPINGS.

[2329.] Your correspondent, Mr. Brown (2308, p. 482) is not above asking for little "tips." Will he accept this one? If he hangs a cheese-cloth bag of cappings inside his extractor, by the top of the cage or by a stick laid across, he need have no trouble at all with wasps and bees, and will secure some of his best honey for market instead of par-boiling it to mix with syrup later on. His cappings will be well drained by the time the honey in the extractor has been strained. But for Mr. Brown's difficulty one would never have thought of mentioning this little matter of constant practice.—S. J., *Bristol, November* 31.

"POINTS" FOR JUDGING HONEY.

A UNIFORM SCALE.

[2330.] In 1893, the secretary of our local Royal Horticultural Society requested me to send in a scale of points for use in judging the honey exhibits, and also to be printed in the schedule, so as to enable intending exhibitors to know the qualities to be sought for in their exhibits.

I devised the following uniform scale of points, which has so far, I believe, given satisfaction. I shall be pleased to see it receive the benefit of friendly criticism at the hands of those best able to deal with the subject, because such scale, or a modification of it, may be of service in country-places, at small local shows, where the judges that are adjudicating on the floral or fruit exhibits have also to make awards on a few classes for honey:—

EXTRACTED HONEY (LIQUID).

	Points.
Transparency	4
Density...	4
Brilliancy	4
Lightest Colour	4
Flavour	4
	20

EXTRACTED HONEY (GRANULATED).

	Points.
Lightest Colour	4
Smallest Grain	4
Uniformity of Granulation ...	4
Freedom from White Streaks ...	4
Flavour	4
	20

HONEY IN THE COMB.

	Points.
Whiteness of Comb	4
Evenness of Sealing	4
Fulness and Weight	4
Cleanliness of Wood	4
Flavour...	4
	20

Peter Bois, *Jersey, Nov.* 12.

[We shall be glad to see the above subject discussed in our columns, though personally we must confess our inability to see how a "uniform" scale of points can be of any service whatever in adjudicating. Take, for instance, the above scale for "liquid" extracted honey: According to that scale an exhibit might easily win first prize by gaining maximum points on the first four heads, while having flavour so bad as to be unfit for table use and so earn no points at all! Besides, no mention is made of the very important point of aroma. We think that all competent judges agree that, no matter how "handsome" a sample of honey be staged, if the flavour and aroma are "bad" its chances of an award are nil, notwithstanding its good looks.—Eds.]

BEE TALK.

[2331.] *Bee Houses or House Apiaries.*—This subject is just now continually cropping up in the B.B.J., and this in spite of a general consensus of opinion that bees do better in the open. Nor is this a modern opinion only. Some fifteen years since bee-houses were condemned by our never-to-be-forgotten pioneer, Mr. C. N. Abbott. One argument often used in their favour is a saving of cost in the hives; as no roofs or lifts are needed, and the material may be very light indeed, but when we come to add the cost of the building the tables are turned, and I fancy we should rather find the "saving" come on the other side.

Ripening Honey.—A corrugated-iron roof to a *honey*-house, which is also used as a work-shop, is not altogether the best thing, as in

summer the sun makes the place like an oven, but (and here is the wrinkle) it makes a splendid place to ripen honey in. Shelves should be arranged round the walls near the roof, and these will carry the crates of sections, and the ripening of the honey will be ensured, if, of course, we are favoured with a fair amount of sunshine.

Section Racks.—I have found nothing to equal *tinned iron* girders for these. They are superior to those made of zinc and "tin-plate," in that they do not sag nearly so much.

Taking Bees to the Heather.—I have had several years' experience of heather-going, and as this topic has been touched on lately, will explain my way for the benefit of those fortunate ones who are located near these "happy hunting grounds" of the bees. I have found no way of confining the bees so good as the hinged alighting-board. The entrance-slides and the piece in which they run should be confined within the porch-cheeks, and should be arranged to lift up, so as to give a full-width entrance when necessary. In preparing the hive for the moors the entrance is left open to the fullest extent, and the alighting-board folded up against the face or front of porch and secured there by a hook and staple. This operation occupies about as many *seconds* as the plan of tacking on perforated zinc does *minutes*, and there is also the great advantage of the bees being able to come out into the porch space (I have found them clustered there on arriving at the moors), and so, not feeling so confined, they do not get over-heated.

The floorboard should be securely fixed by screws, clamps, or angle-pieces of galvanised iron. If the hive is on the fixed inner-wall plan, as in the "Combination," with wide-shouldered frames, the dummy should be put close up to about eight frames, and fixed by putting a couple of wire nails *against* it and *into* the inner walls. This prevents the frames from moving back when the hive is lifted on the dray. Section-racks or shallow-frame boxes must be secured either by screws through the "lift" or by angle-pieces screwed to rack and hive-walls. Roof and lifts may be made perfectly rigid by pieces of wood screwed on. Pack all the quilting on you can.—S. P. S., *Winchester, December 7.*

QUESTION AND ANSWER.

AS TO FOUL BROOD.

[2332.] I was in hopes that this question would have been less prominent, at least for a time, in the pages of the BEE JOURNAL, but as Mr. Garratt, on page 492, asks for facts to prove my complaint as to the practice of those who hold what I call heretical doctrines on the subject of foul-brood, I beg to state that the disease has manifested itself in the following apiaries during this and last season: The Misses Smith, Dartford Heath; Mr. Cecil H. Hooper, Swanley; South-Eastern College, Wye. I believe the bees were supplied in each case by Mr. Garratt. In the case of the Wye College Apiary I urged Mr. Garratt to get bees from some district known to be healthy, because it was of all importance to secure successful honey results at that school, and run no risk of foul-brood appearing. I have no knowledge where the bees were obtained, but if from a clean district I acquit Mr. Garratt of all blame. In the report of the Technical Education Committee, submitted to the Kent County Council, Nov. 20, 1895, there occurs the following paragraph: "During the season an apiary has been formed at the County Council College, at Wye, from which results have been obtained of a most *encouraging* kind." I am not aware that a good honey crop has resulted, while I know that foul brood has broken out among the bees there. The report is signed by Mr. Jesse Garratt, lecturer and demonstrator. This report, which ought to have been first passed by the Council of the Kent Bee-keepers' Association, was sent in direct. I should, as a member of the Kent B.K.A. Council, have challenged this statement had the opportunity occurred. I disown for myself, and on the part of the K.B.K.A., all responsibility for the publication of such an unaccountable statement. I deeply regret having to probe this question thus, but you and your readers will see that Mr. Garratt's challenge leaves me no option.—E. D. TILL, *Priory, Eynsford, Kent.*

ARTIFICIAL HONEY.

HOW IT IS MADE.

[2333.] As I scanned the columns of a certain publication recently, I chanced upon the following announcement:—

"How to make Artificial Honey. Cost 3d. per lb. Sell at 9d. Send seven stamps," &c.

Having forwarded sevenpence to the address given, I duly received the recipe, and learnt that the necessary ingredients were gum arabic, sugar, and water in proper proportions, flavoured with oil of rose, spearmint and jasmine, and coloured with tincture of saffron. I was further instructed to boil for twenty minutes, and then informed that the "honey" would be "ready for sale when cold."

I followed the instructions given, and manufactured some "honey," a sample of which I send you with this. In respect to outward appearance, this appears to me fairly presentable, but I think you will agree with me that, regarded in the light of an adjunct to the breakfast-table, there is no more suitable expression with which to describe it than *nauseous mess.*

Surely, did the British public realize that such compounds as this are really in the market, together with many containing positively injurious ingredients, to say nothing of the immense quantity of inferior foreign

honey regularly imported, the value of the *Association label* would soon be appreciated.

The sooner tradesmen, too, discover that John Bull is not altogether devoid of the power of discrimination, and is little likely to be taken in a second time and come back for further supplies of such an article as that I now send you, or, indeed, of *some* real honey that I have tasted, the better for *them*.—GERARD W. BANCKS, *December* 7.

[After tasting the "sample" we can only describe it as abominable rubbish. There need be no fear of its being offered for sale by any one possessing a grain of common sense, and so no harm will be done to bee-keeping or to the sale of honey; but the cool impudence of the advertiser in telling buyers of the recipe that the stuff made from it will "sell at 9d." per lb. is past belief, and makes one wonder that any respectable paper will allow its advertising columns to be used for such a purpose.—EDS.]

ADDITIONAL HONEY CLASSES FUND

[2334.] I trust there will be no mistake in the minds of your readers as to what is desirable to be done anent the above. I may also be allowed to say that the names of bee-keepers cordially supporting the scheme include those of leading spirits of our craft, all of whom are willing to join hands in helping bee-keepers to help themselves. I am more than pleased with my "list" of supporters so far as it has gone, but whether or not complete success—as I see it—is to follow depends upon bee-keepers themselves. It is necessary to say this much because I feel very strongly that this particular effort should not be turned aside from its original purpose, and take the form of a philanthropic movement benefiting only a few. I, for one, will be no party to that idea in any shape. However, as several pounds have already been promised by those who can receive neither direct nor indirect benefit from the movement, this fact makes it all important that those whom it *will* advantage—viz., our practical bee-men who are honey-producers, and who, in consequence, take a lively interest in bee-shows and honey fairs—should "not be backward in coming forward" (as the old "showmen" used to say) with their contributions, whether these take the form of special donations, or a "Shilling Fund," or even contributions "in kind" to swell the "Additional Classes Fund."

My own idea of such a fund is that it should—if means allow—be used to supplement or extend the prize-lists of every important show in the kingdom where honey and bee products are staged for competition and sale. In this way it is practicable to bring, not only honey but mead, honey-vinegar, confectionery, and other things in which honey or beeswax are used, prominently forward. The number and value of prizes offered, and the extension of prize-lists to shows all over the kingdom is, of course, only limited by the amount of assistance rendered by the persons to be *directly benefited*, *i.e.*, bee-keepers themselves.

I trust, therefore, that you will not offer any objection to the "subscription list" being posted up at the BEE JOURNAL office, to which address cash or donations in kind might be sent to care of the Editors. Any further information I will be glad to afford on receipt of a postcard addressed to myself.—H. W. BRICE, *Beulah-road, Thornton Heath, Surrey.*

YE OLDEN BEE-KEEPER.

[2335.] I possess an ancient tome, some two hundred and forty years old, which professes to give reliable information concerning all things in the earth below and in the heavens above. Of course a corner is devoted to the bee-keeper, wherein the mysteries of the craft are unfolded and rules laid down for the proper management of the apiary. One is struck by the soundness of much of the advice here given. Perhaps I ought to say of *some* of the advice, but readers of the B.B.J. shall judge for themselves.

The following are a few of the points upon which information is volunteered :—

Water.—"This makes bees healthful, and to provide good honey. You must lay in great stones, and pieces of wood above the water, that the bees may stand upon them and drink with ease. If there be no running water, you must bring it forth from a well or fountain, and bring it along in pipes. But these must be near to the bees, lest they fall sick with carrying water."

Hives.—"The hives they live in must be excellent good, made of oake, or figtree, pine, or beech tree, the boards a cubit in breadth and two cubits long. They must have holes made slant waies, that the winds, blowing in gently, may dry up spiders' webs and other corruptions, and may cool them."

General Management. — "This creature delights exceedingly in rest, and doth not well like that men should come to the hive. He that keeps bees must about them build up a wall of hollow stones, that the bees may fly in there into holes, and so escape birds that lye in wait for them, and be preserved from dew."

I own that it has never occurred to me to erect these stone walls. Perhaps the "birds that lye in wait" were more troublesome in those days, and the dews heavier.

Hives of oak, too, are unknown in my apiary, and although an eighteen-gallon cask of water, near the bees, drips on a couple of bricks, I must confess that I have never gone to the trouble and expense of laying on pipes from the fountain.

Swarms.—"When there are many young bees the old ones will send them forth to live

by themselves, as the Sabines often did when their children became very many. You are aware when this is about to happen, because they make a vehement noise, as soldiers do when they are about to march. Then the bee-keeper casts dust amongst them, and, tinkling a kettle, he astonishes them, and makes them stay."

While presenting to the readers of the B.B.J. the foregoing extracts, I feel bound to utter a word of warning. My oracle is not infallible. I may say it is not always truthful. Or, to use plain language, it does not scruple on occasion to tell you the most barefaced—well, we will call them *stories*.

In corroboration of this indictment I would refer to certain instructions for turning lead into gold. You are directed to cast an ounce of a certain preparation upon 3 oz. of lead, then, in the words of the oracle, "it will turn yellow; then cast 1 oz. upon 8 oz. of lead prepared, and you shall have perfect gold. Praise God for it, and give something to the poor!" — GERARD W. BANCKS, *Green-street Green, Dartford.*

(To be Continued.)

VERIFY YOUR QUOTATIONS.

[2336.] Just a line to say that the lines quoted (No. 2287, p. 466) from Butler's "Hudibras,"

"He that complies against his will
Is of the same opinion still,"

are given in the edition from which I take this extract :—

"He that complies against his will
Is of his own opinion still."

—Butler's "Hudibras," part iii., canto iii., lines 547-8, Gilfillan & Clarke's edition, vol. ii, 1862.—D. D., *November* 21.

PREVENTION OF SWARMING.

(Concluded from page 497.)

Those early colonies already mentioned will show how to get comb-building done above the stock chamber; you have only to give them the supers wherein to do it, but do not attempt to use starters only in the sections. Use nothing less than full sheets—and surely foundation is cheap enough, with nearly one hundred sheets (for sections) to the pound.

If any difficulty occur get the bees to start building in one rack of sections before the lower chamber is added; then, with a second super and warm covering above, and the lower chamber added at the same time, the latter need not afterwards be touched, as little or no comb-building will be carried on there.

By observing the foregoing conditions the bee-keeper will find himself in possession of permanently strong colonies and larger yields, combined with greater safety in wintering, as the lower (open chamber) is left under the stock.

I must repeat that backward colonies give the most trouble in swarming. They do not develop their brood-nest fully until the best part of the honey season arrives, and then the hive is handicapped by the excessive number of consumers which continue to keep the cells empty for the queen to still further add to an already too costly population. It has been this sort of, not management, but mismanagement, which has upheld the use of excluder-zinc—in my opinion, one of the most useless fads the apiarist has ever been asked to adopt in connection with honey-production.

Irregular or badly-shaped combs will frequently favour the formation of queen-cells, in spite of unlimited room, and I need hardly explain that old queens and large quantities of drones are also to be condemned. There is no need for drone comb, if any should be built, in the frames provided with starters; but those who fear that difficulty can place the frames only ⅛-inch apart, and be almost certain of worker combs.

The accompanying illustrations will explain to the uninitiated what my non-swarming chamber implies. Fig. 1—a form of hive not

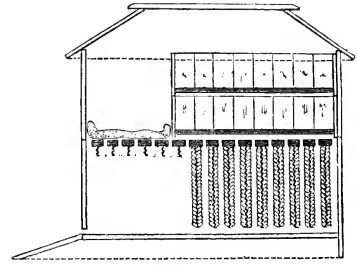


Fig. 1.

favoured by myself—is a sectional view of the "Combination," with the foremost frames having narrow wax-guides, while the supering is done above the actual stock combs. Fig. 2

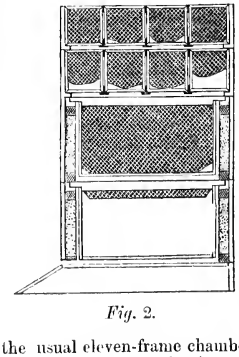


Fig. 2.

shows the usual eleven-frame chamber, by far the best style for honey production under any

form of management. Two tiers only of sections are shown, but, of course, one does not attempt to restrict a powerful colony to that number when honey is coming in freely.

With reference to the "Conqueror hive," referred to by several correspondents, I would repeat that the starters are not arranged in the lower frames for the purpose of inducing the bees to build comb therein; but the said open chamber between the brood nest and the entrance, being the principle of prevention, it is necessary that a natural arrangement be provided in view of utilising in a practical manner any combs that through an oversight or sudden influx of honey may be built therein.

It should be particularly noticed that by covering the supers up warmly, while at the same time providing a large entrance, the bees have no choice but to leave the empty frames alone and proceed to work in the supers where it is warmer.

As a matter of fact, where the apiarist is troubled with comb-building below, it will invariably be found that the entrance is too small. By the simple adaptation of heat and cold, or warm covering and ventilation, the bees will always be willing to build where wanted, just as the circulation of our own life blood may be restricted at one point, and encouraged at another by the principle of hot and cold water application.

I had not time earlier to reply to the various articles calling attention to the prevention of swarming, but I may say that the Conqueror has now been adapted to the necessities of the case. The entrance of this hive is capable of expansion to the extent of some 18 in. by 1½ in., while the lower chamber, in addition, touches neither the floor nor the actual stock-chamber above it, thus giving so much ventilation in the right direction that the bees are forced upwards. And so is overcome the difficulty once experienced in producing comb honey while the bees had unlimited room.

Should there be any point not quite clear to those who recently referred to the subject, I shall be pleased to explain any further apparent difficulty by kind permission of the Editors.—SAML. SIMMINS.

ABOUT OUR BEES.

(III.)

THE METAMORPHOSIS OF THE BEE.

As a general rule, it may be said that eggs intended to produce workers are laid in worker cells, while drone eggs are deposited in drone cells. A fertile queen in normal condition never makes a mistake in this respect, provided cells of both kinds are available; nor does she lay more than one egg in a cell, save under stress of circumstances which may arise from (1) want of room, *i.e.*, egg space; (2) insufficient bees to cover the brood, where cells are available, as a queen will not deposit eggs on the uncovered combs outside the cluster.

On examining a hive, it will be found that the manner of the bees, on such combs as are being used for breeding, is totally different to those on the frames unvisited by the queen at the time, and if the frame is raised carefully, so that she is not disturbed, it is a most interesting study to watch the care taken by the mother-bee in depositing her eggs, and the seeming deference paid to her by the adjacent bees. Having found an empty cell, she carefully inspects the interior, and, having made up her mind, deliberately walks the required distance across it, and, then inserting her abdomen, deposits an egg, waits a few seconds, withdraws her body, and proceeds to the next cell. She usually lays about five eggs in quick succession, and then, while resting for a moment or two, is fed and caressed by the surrounding bees, after which the same process is again gone through. I have watched for hour upon hour, but the routine is almost always the same. Old or inferior queens seldom lay more than two or three eggs in succession, sometimes only one, and often with long intervals between. On examining a cell just after an egg is laid, we find a small white speck standing on end, attached to the base of the cell, and slightly on one side of the apex thereof; it is fixed in this position by a watery, semi-sticky substance which at this period envelopes the whole of the egg. Within a few moments, however, one of the nurse bees enters the cell—head first, of course—and, after a few seconds of activity, withdraws and hurries away to the next cell to "go on" as before. Now, let us examine the cell again, and we find that the nurse-bee has carefully placed the new laid egg down on its side and in its orthodox and proper position at the bottom of the cell. The egg from this time forward is a matter of constant care and attention on the part of the nurses, who are persistently examining it, probably to see how it is "getting on." On the second day we find the bees have shifted its position to an angle of about 35 degrees; on the third it is again moved to an horizontal position, and on the fourth day it hatches out.

This brings us to the question, What is the still undeveloped insect to be? But in any case, whether worker, drone, or queen, we find the young larva lying in crescent shape at the bottom of the cell, and here it rests for some hours almost unnoticed by the bees, and certainly unfed for twelve hours. Then is seen a little transparent food, upon which the larva almost floats. In twenty-four to thirty-six hours the food first exhibits a slight milky opacity, and becomes more abundant until about the third or fourth day, during which time the food is absorbed by the mouth and other portions of the body floating upon it, the larvæ passing no ejections whatever. At the period men-

tioned—and with either worker or drone larvæ—what is known as the "weaning period," occurs, and for a short time no food is supplied. Then, when nourishment is again necessary, the food is changed, and the rich nutriment previously given—which appears to me to partake of the nature of "Royal jelly"—is discontinued, and honey and partly-digested pollen take its place. The worker larvæ are fed on this until the end of the eighth day, when the cells are capped over, and after the twenty-first day the insects come forth from the cells perfectly deve'oped, in the form of brownish-grey little creatures, apparently regarded by the adult workers as hardly belonging to the same community. However, in a very short time the newly-arrived ones are running about the combs, clearly to the "manor" born. Drone larvæ are fed for one day longer than the workers', the cells being sealed over about the ninth day. They do not, however, issue as perfect insects until after the twenty-fourth day from the laying of the eggs, both days inclusive.

Bees have the power to prolong the above times, but I have failed to discover that they can shorten the time occupied in the metamorphosis. They have, however, a marvellous power of lengthening the period, instances having come under my notice where worker larvæ has been kept at apparently from three to four days old from the egg, till the eighth day, these same cells having been found unsealed on the twelfth day. This often happens in queenless colonies. I have also known drone larvæ to remain unsealed for days after the generally-accepted period. The protraction of time in sealing the cells is more marked, however, in the case of queen-rearing. A larva intended for a queen is fed during the first three days on the same partly-digested food as the worker and drone larvæ with the important difference that the larvæ intended for queens are fed abundantly with this food from first to last and are not weaned or stinted in any way or at any period, thus the usual time for a queen to develop is sixteen days: viz., the egg hatches on the fourth day; larva feed until the eighth day, when an extra abundant supply of food is given, and the cell is sealed by the ninth day—the perfect queen coming forth on the sixteenth day. This is generally the case under normal conditions, but it is not unusual to have whole batches of queens not forthcoming until the eighteenth and nineteenth day, sometimes issuing nearly all at one time, and sometimes hours after one another, being almost entirely dependent upon when the cells were respectively sealed. This power of controlling the development of their young, and the many varied circumstances which affect this question is one of the most absorbing phases of our craft, and is another portion of scientific bee-keeping upon which more light is wanted.—H. W. Brice, *Thornton Heath.*

(*To be continued.*)

A FAMOUS ACTRESS,

AND A SUCCESSFUL LADY BEE-KEEPER.

A letter from San Fransisco, in the Berlin *Tägliche Rundschau*, gives an account of the once famous actress, Mme. Modjeska, in her present character as a Californian farmer. She has a ranche at the foot of the Santiago Peak, where she owns large flocks of sheep, from which she derives a comfortable income, and she includes amongst her stock 500 splendid Angora goats. Her great delight, however, is her prosperous bee culture, for which she has acquired a wide renown. She owns over 760 bee-hives, and the honey is declared in the neighbourhood to be the best in the world. Mdme. Modjeska rises every morning at half-past five, visits her stables and cattle-sheds, and makes the round of her bee-hives; then she mounts her horse, which she bestrides after the masculine fashion, and gallops across her fields to see that everything is in proper order. She finds the actual shepherding to be more laborious, but more pleasant, than the part of the jewelled and ribboned shepherdess *à la Watteau* behind the footlights.

Notices to Correspondents and Inquirers.

Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

Mentone (East Yorks).—*Sugar for Candy-making.*—Brown sugar, whether in crystals or not, is unsuitable for making bee-candy. Only refined white cane-sugar should be used.

D. M. (Alyth).—*Progeny of Pure Italian Queens.* — It is quite common for the progeny of "pure Italian queens" to bear very little of the yellow bands or markings of their parents, because of the latter being mated to a hybrid or a black drone. But even when mated to native Italian drones the markings vary a good deal, a large percentage of pure Italian bees being what are called leather-coloured or brown-banded. These latter are considered by many to be superior to the yellow-banded sort for working qualities.

Wm. Halpin, Jun. (Knockmagen).— *Raw Muscovado Sugar for Bees.*—The sugar sent is entirely unsuitable for candy-making. You will find in recipes given either lump or refined cane sugar is always recommended for use in candy-making. Raw sugar may be used for bee food in the summer time, but at that time only, for not only is syrup made from it very liable to fermentation, but it has a tendency to cause dysentery among bees.

Editorial, Notices, &c.

BRITISH BEE-KEEPERS' ASSOCIATION.

The monthly meeting of the Council was held at 17, King William-street, Strand, W.C., on Friday, the 13th inst., at twelve o'clock, the Finance and Educational Sub-committees having met at an earlier hour in the day.

Present :—T. W. Cowan (Chairman), Henry Jonas (Vice-chairman), the Hon. and Rev. H. Bligh, Rev. G. W. Bancks, Major Fair, Messrs. R. Andrews, W. Broughton Carr, J. Garratt, and J. H. New. The Rev. W. E. Burkitt and Messrs. J. M. Hooker and F. H. Meggy were also present *ex officio*.

The minutes of last meeting were read and confirmed. Letters were also read from members of the Council regretting their inability to attend.

The statement of accounts to November 30 having been read and dealt with, certain accounts were passed for payment.

Referring to the vacant secretaryship of the Association, the Chairman stated that the special committee appointed to deal with the matter had under consideration the numerous applications received, and without deciding to recommend any one at present, would report later on.

The correspondence included an application for affiliation by the Manchester and District Bee-Keepers' Association. The Council, after having fully considered the matter, decided,—

"That as the district proposed to be covered by a Manchester and District Association, is already efficiently worked by a branch of the Lancashire and Cheshire Association, the application for affiliation of the former with the British Bee-keepers' Association cannot be entertained."

The Educational Committee reported the results of examinations held during the year of candidates for second and third class certificates.

The Council adjourned to January 10 next.

[A full list of candidates who have passed will appear in our next issue.—Eds.]

CONFERENCE OF COUNCIL OF THE B.B.K.A. WITH DELEGATES FROM COUNTY COUNCILS.

A meeting was held in the Board-room of the R.S.P.C.A., 105, Jermyn-street, at four p.m. of the same day, consisting of the members of the Council of the British Bee-keepers' Association, and delegates appointed by different County Councils, in accordance with an invitation from the Association. This step was taken in pursuance of the interview which took place in May last between the Council of the Association and the President of the Board of Agriculture, on the subject of proposed legislative measures for the protection of bee-keepers and the extermination of foul brood.

The meeting at the outset resolved itself into a joint committee, and on the motion of Mr. W. Lees McClure, Mr. T. W. Cowan was voted to the chair. In opening the proceedings, Mr. Cowan said :—I should first like to announce that most of the County Councils of the kingdom have appointed delegates agreeably to our wish, but in some cases these representatives are unable to attend here to-day. That is the case as regards Worcestershire, Staffordshire, Shropshire, and the Lindsey division of Lincolnshire. Mr. Montague Sharp, of the Middlesex County Council, also writes regretting his enforced absence. The County Councils which have not appointed delegates have made no grants to bee-keeping ; but there are only two or three of these. I think most of those present know all about the greatest scourge of bee-life—foul brood ; and, therefore, I shall confine my remarks to the history of our movement—so far as the steps which have led up to this meeting. Some two or three years ago pressure was brought to bear on the Council of the B.B.K.A. Association with a view to getting this question of foul brood dealt with ; but at that time our organisation was not sufficiently advanced to enable us to do anything, and the matter remained in abeyance for a time. Last year, however, we again took it up with increased earnestness, and through the County Associations were enabled to accumulate a mass of statistics, digest them in a Report, and go before the Minister of Agriculture fully prepared to show him the evidence on which we invited Government action. In May last we formed a deputation to the then President of the Board, Mr. Herbert Gardner, which deputation included members of Parliament, members of County Councils, and other bodies in addition to the Council of the Association. We met with a favourable reception from Mr. Gardner, who promised to give the matter his attention. The report above referred to deals with the whole question ; all the work done is there stated, and was brought before the Board of Agriculture. In the course of an exhaustive and sympathetic reply to the deputation, Mr. Gardner raised several points for our consideration, suggesting among other things the appointment of a small committee to confer with the permanent officials of the Board of Agriculture. The Council of our Association, acting upon that suggestion, appointed four of their number for the purpose, and these gentlemen met Mr. Elliot, Permanent Secretary, and other officials of the Board in July last, at the offices in Whitehall. The result of this interview was very encouraging, as you will hear later on. It was pointed out afterwards that as the County Councils would most likely have to administer any Act of Parliament that might be passed, they should be invited

to send representatives to meet the B.B.K.A. council to confer with them on the whole subject, and form a joint committee for taking action in the matter. We approved of this view, and accordingly invited the various Technical Education Committees to appoint delegates to meet us to-day. As I have already stated, a favourable response was received, resulting in the present meeting. With regard to the interview with the permanent officials of the Board in July, which I have already referred to, and points touched on by Mr. Gardner, in one—as to the cost of carrying out any measures of relief—the industry did not appear to be sufficiently large, in Mr. Gardner's view, to justify the appointment of inspectors all over the country, as was the case under the Contagious Diseases' (Animals) Act. To this the reply was given that that was not what bee-keepers desired; they wanted the power to stamp out foul brood where it existed, and inspectors were, therefore, not necessary where foul brood did not appear. It was considered that for a whole county the cost should not exceed £250 per annum, so that I think the Board were satisfied on that point.

The next query raised was as to the possibility of curing the disease by means of drugs. That is a matter which you all know is very difficult to settle. In the case of many diseases of animals drugs have been tried and failed. No doubt in the earlier stages of the malady, and at a time when few but expert bee-keepers can detect it, it is possible to arrest the disease; but when a more advanced stage is reached, then it is more difficult if not impossible to combat its ravages, and the only course to take is complete destruction of combs and bees. At any rate, there must be more education in bee-keeping before you can arrive at the conclusion that it will be safe to trust the average bee-keeper with drugs. This plague can be attacked successfully by experts in its earlier stages, but not afterwards. The next point referred to the notification of infected areas, and compensation. In the Bill you will see it is suggested that anyone having the disease in an apiary should at once notify the inspector or a police constable of the fact, upon which the inspector would visit the premises and give instructions for effecting a cure where possible, and, if his instructions are not carried out, he would have power to order the destruction of hives and contents. We do not propose that persons shall be encouraged to inform against their neighbours, which would sometimes open the door to the gratification of private spite. Let the notification be voluntary on the part of the bee-keeper. It is to his interest that his hives shall be clean, and where it is necessary to destroy them we propose to give compensation. Where a bee-keeper conceals the infection from the authorities we say that he ought not to receive compensation, and, moreover, ought to be fined. Then, as to experts, it was asked whether there were experts available for inspectorships, and it was shown that such experts already existed. With regard to the size of the industry, which was also a subject of consideration, everybody who knows anything about bee-keeping will realise that it is capable of very considerable extension. At present its value is represented by about £150,000 per annum, so far as we can calculate, but, from accounts we have received, these figures might be expanded almost indefinitely, there being large tracts of land in this country where bees have never been kept at all. We could very reasonably estimate the possible size of the industry as ten times the amount I have mentioned; and the Board of Agriculture are quite satisfied with what we say of its value to fruit and flowers in regard to fertilisation, as well as the production of honey; indeed, its value to horticulturists and fruit-growers is incalculable. The Board of Agriculture have also agreed to issue a leaflet of four pages on the subject of foul brood and its treatment.

So far as the merits of the question, I have probably now said enough; but we want you to consider the advisability of appointing a sub-committee consisting of delegates from the County Councils and members of our own Council to go into this matter, watch over the Bill, and confer with the Board of Agriculture thereon. The Association is quite prepared to enlarge the committee if six be considered too small a number, and they will be very pleased to confer with the delegates on that point. The next consideration will be to give the sub-committee instructions what to do, and how to meet the expenditure likely to be incurred in the introduction of this Bill and the necessary work in connection with it. These are the main questions I have deemed it necessary to put before you, and I shall be very pleased to answer any inquiries that may be made. Perhaps, after we have settled this matter of the sub-committee, we can go into questions of more general import. I should say in conclusion that the Board of Agriculture propose to modify the Bill by making it an adoptive measure and not a compulsory Bill, so that the County Councils may adopt or not as desired.

Mr. W. H. Harris, in proposing the first resolution, said the council of the B.B.K.A. had devoted much attention to the subject of foul brood. It had cost them an enormous amount of thought and labour, and they considered that when they had arrived at the point of being received by the Board of Agriculture, they had taken an immense step forward. But it was soon found that the work had, in reality, only just begun. A further advance had been made by the appointment of a small committee to confer with the permanent officials of the Board. County Councils also had shown sympathy with the movement and every intention to help it to a satisfactory issue. A further step forward

was the presence to-day of the County Councils' delegates, sent specially to confer with the Council of the B.B.K.A., and he would add that yet another step in the right direction would be made if the meeting would agree to pass the following resolution :—

"That three delegates from the County Councils be chosen as a sub-committee to act in the matter of legislation on foul brood, with a similar number of representatives of the British Bee-Keepers' Association, with Mr. T. W. Cowan as chairman."

Mr. Meggy seconded the resolution, which was carried unanimously.

The Chairman thought it would be well if the names of suitable gentlemen to act on the sub-committee could be chosen at the present meeting. And in this connection it had been suggested that Mr. Harris, Mr. Till, and Mr. Carr should represent the B.B.K.A. And, unless the delegates were already prepared to submit names, he would suggest those of Mr. W. Lees McClure (Lancs.), Major-Gen. Luard (Kent), and Mr. Walter Martin (Lindsey Div., Lincs.). It was, however, perfectly free for them to substitute any other names they might wish, if it was thought desirable.

Mr. Lees McClure, as a member of the Lancashire C.C., could say—and he presumed the same applied to other County Councils—that whenever his county spent money they liked to have the application of it under their control, and to see a good return for the outlay. And in an important matter like the present, where the police were to be empowered to interfere, many of the counties would like to have a voice in the matter. He saw no difficulty as regarded his own county in that coming before the standing committee. But as all counties did not work alike, some matters would have to be threshed out, although no permanent difficulty presented itself. As his name had been mentioned in connection with the sub-committee, he would be very glad to serve if appointed, for he had attended bee meetings here during several years, and had sufficient experience to know that there was a great deal to be done on this question before a practical result would be achieved. Foul brood had caused much harm in Lancashire. Even at the present time, when they had a farm to teach students agricultural work, they were afraid to go to expense in providing bees and equipment, because there could be no security that foul brood would not supervene. There might be a neighbour next door whose bees were attacked, and if so whatever money were spent would be wasted. He had the strongest feeling that before any bees were obtained, and bee-keeping taught at the farm, there should be some means of legally preventing a neighbour from destroying their property, and the good effect of their labour and teaching. Without overlooking the difficulties with regard to dealing with disease among cattle, he trusted that their action to-day might lead to the adoption of some means for the purpose of stamping out foul brood among bees. He would do his best to obtain legislation, and he hoped the bulk of the County Councils would fall in with that view.

Mr. St. John (Warwickshire C.C.) thought the subject as explained to-day had not been brought before the different County Councils with sufficient clearness; besides which he considered that the Technical Education Committees were hardly the right persons to take up this question. His committee had appointed him as a representative in response to the invitation of the B.B.K.A., but they were not fully acquainted with the steps that had been taken, and he believed that the subject should be more fully ventilated before serious steps were taken. Before committing himself to any opinion he would like to have the opportunity of placing before his committee the objects of the Conference. Regarding the proposal for compensation, for instance—and he felt sure that his committee would not fall in with that—he thought a hive once infected with foul brood was worth nothing at all. He had had experience of it, and had succeeded in eradicating the disease, but the infinity of trouble, and the uncertainty led him to think that it was better to burn the whole lot! The Warwickshire C.C. were taking great interest in the question of bee-keeping; they had lately adopted a scheme for the encouragement of the industry. Lectures had been given throughout the county and they were now endeavouring to establish Bee Clubs, with the object of spreading a knowledge of scientific bee-keeping among the members. The Dairy Farm School students were also instructed in theoretical and practical bee-keeping. His council were quite in earnest in the matter, and when the subject was properly put before them they would, no doubt, enter into it with a determination to do their best to advance the interests of bee-keepers.

The Chairman, referring to Mr. St. John's remarks about compensation, said that the maximum amount proposed was only 10s., while the actual sum to be allowed was left to the discretion of the inspector, so that he might value a diseased hive at from 10s. down to nothing at all.

Mr. Welch (Surrey C.C.) said :—In Surrey they had been tolerably active of late with regard to bee-culture. They had the Berks bee-van perambulating the county. At the Agricultural College at Wye, in Kent (which they shared with the Kent C.C.), bee-keeping was taught, and the Council had also taken steps to resuscitate the old Surrey Bee-keepers' Association. He was quite sure the Surrey C.C. would do all in its power to encourage the bee-keeping industry, and also take any steps advisable for the suppression of foul brood.

The Chairman said that what was desired to-day was that a sub-committee should be

appointed to take the matter in hand, and report its work and conclusions to the general committee, who would in its turn report to the County Council.

Mr. Harris was under the impression that a considerable amount of information on the object of their meeting to-day had been furnished to the County Councils, and he was rather surprised to hear from Mr. St. John that particulars had not been laid before them.

Mr. St. John maintained that no exact account of the work done had been brought before the County Councils.

Mr. McClure said that as a body probably the County Councils knew little or nothing of the matter. Although the report now on the table before them had been forwarded, it must be borne in mind how impossible it was for County Councils to read all the printed matter sent to them. Members interested in the subject would no doubt follow it up through the pages of the BEE JOURNAL, but others knew nothing about what was going on. The whole question would therefore be left to those who understood it, and the delegate would be selected therefrom.

Mr. St. John—as secretary of the Technical Education Committee—said his Council had not had the whole subject put before them as in the report on the table.

The Chairman replied that the B.B.K.A. had sent out to each County Council the following letter addressed to the Chairman of the Technical Education Committee :—

DEAR SIR, I beg to enclose a report of a deputation of the British Bee-keeper's Association which has been received by Mr. Herbert Gardner, President of the Board of Agriculture, with a view to devise some plan for dealing with foul brood among bees.

The prevalence of the disease is seriously affecting bee-keeping throughout the kingdom, and it is therefore a question of considerable importance to the rural districts.

The Council of the British Bee-keepers' Association do not think that Parish or District Councils, as suggested by Mr. Gardner would avail for carrying out the proposed measures. On the other hand, they consider that County Councils could properly assist in furthering the object for which they have approached the Board of Agriculture.

If your Council have voted funds for technical instruction in bee-keeping, either alone or jointly with other subjects, I should be glad to know to what extent this has been done.

May I ask you further to inform me whether your Council would be willing to nominate a representative with whom the Council of the British Bee-keepers' Association might confer on the whole subject.—I am, sir, your obedient servant, THOS. W. COWAN, Chairman.

With this letter was sent a report which it was supposed the County Councils or those who took the matter in hand would read and make themselves acquainted with the subject. The B.B.K.A. concluded that the delegates chosen would be those who took an interest in bee-keeping and therefore knew something about it.

Mr. Welch thought that the three delegates who has been suggested by the chairman should be elected as being most qualified for the office. He, therefore, proposed that the representatives of Lancashire (Mr. W. Lees McClure), of Kent (Major-General Luard), and of the Lindsey Division of Lincolnshire (Mr. Walter Martin), be the delegates of the County Councils on this committee.

Mr. Andrews seconded the resolution, which was carried unanimously.

Mr. Jonas, on behalf of the B.B.K.A., proposed that Mr. Harris, Mr. Till, and Mr. Carr be elected to serve on the sub-committee as representing the Association.

Mr. Hooker seconded the resolution, and this was also carried unanimously.

Mr. Meggy said that the representative of the Warwickshire C.C. had asked whether there was any good reason why this sub-committee should not be enlarged. The chairman had answered that the number six was mentioned, because Mr. Gardener had suggested a small committee. He would, therefore, move —"That the committee now formed have power to elect members to fill vacancies that may occur in their body from any cause and to add to their number if they find it desirable to do so, in either case acting as far as possible in accordance with the suggestion that a distinct part of the country should be represented."

Mr. St. John having seconded, the resolution was carried unanimously.

Mr. St. John said he was anxious that the particulars should be put before all members of the County Councils in a condensed form, so that every member would know what he was voting for, and he therefore moved the following resolution :—

"That the sub-committee be requested to confer with the Board of Agriculture on the subject of legislation respecting foul brood, and to submit to a future meeting of this committee a report and a scheme for the payment of expenses incidental thereto."

The resolution was carried unanimously.

The Chairman then invited suggestions with regard to the proposed Bill.

Mr. McClure asked whether there was anyone present who objected to legislation on the subject? He feared the question had not been asked in Warwickshire. In Lancashire, so far as he could gather, they were quite willing to invoke Parliamentary powers.

The Chairman observed there was no doubt that bee-keepers as a body all over the Kingdom were in favour of legislation.

Mr. McClure was anxious that the sub-committee should commence work as soon as possible, and he hoped the date of the first meeting would be fixed before they separated. He moved a vote of thanks to the chairman

for presiding. Mr. Andrews seconded the vote, which was carried amid applause.

The Chairman returned thanks, and said he echoed Mr. McClure's wish that the committee would begin their labours as soon as possible. There was already a large mass of information at their disposal, so that they could proceed at once. Many members of Parliament were willing to support a bill, and there was no doubt Ministers would be quite ready to assist a measure which had for its object the relief and benefit of agriculturists and cottagers. He trusted an enactment could be framed which would be alike acceptable to bee-keepers and County Councils, especially as the latter would have a direct voice in the matter before any decisive action was taken; and he hoped before the conclusion of another year to be able to congratulate them on the successful result of their efforts.

The proceedings then terminated.

BRITISH BEE-KEEPERS' ASSOCIATION.

THE VACANT SECRETARYSHIP.

In reply to inquiries from candidates for the office of Secretary to the B.B.K.A. as to the appointment, we are authorised to say that a large number of applications have been received, and are now under consideration by the Council. When a decision has been arrived at the result will be made known in the earliest issue of the BEE JOURNAL.

IRISH BEE-KEEPERS' ASSOCIATION.

The committee met on 12th inst. Present:—Mr. Read (in the chair), Dr. Traill, Mr. O'Bryen, Captain Millner, and Mr. Chenevix (hon. sec, 15, Morehampton-road, Dublin). It was resolved to hold a conversational meeting next spring, and to give notice of it in the next number of *Notes and Hints*. Afterwards the sub-committee appointed for the purpose settled on the outlines of a scheme to be recommended to the Congested Districts Board for the promotion of bee-keeping in their districts next year.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

NOTES BY THE WAY.

[2337.] The year is speeding quickly to its close; in less than a week we shall have reached the shortest day, and with the turn of days the sun will start on its journey southwards. Then, we have our great festival of Christmas, with its re-unions of families, and goodwill to all. These marks of the passing year remind us that our thoughts should ever be prospective, and so, instead of contemplating what is passed, let us inscribe on our banner "Vorwarts."

The industry of bee-keeping will receive considerable impetus during the coming year if action be taken by the Bee-keeping Associations to keep the aims and objects of the craft to the front.

The chief aim has hitherto been to reach the cottager class of bee-keepers, and I do not think it is over-stating the fact to say we have failed in this so far as teaching the agricultural labourer a better system of bee-keeping. There are a few exceptions, I know, but they can be counted on the fingers of one hand in most districts. Improved methods of production—say of extracted honey—has tended to restrict the local sales of the cottager's strained honey, and consumers now purchase in smaller quantities than of yore. Thus the pots of honey weighing 14 to 20 lb., formerly bought from cottager producers, are not so saleable as in past years. Then the agricultural labourer is more migratory than formerly, and bees are not so easily moved as some kinds of stock.

The action initiated by the British B.K.A., and now supported by County Councils, will do much to popularise not only bee-keeping, but also lead to a greater consumption of honey as an article of food, and as being specially suitable for invalids where the use of sugar is denied. In these cases honey is the only form in which sweets can be taken without injury, In this and other ways we may look forward to the demand keeping pace with the supply. The day of fancy prices has gone never to return, and it is only by increasing our output per hive that we can make up the difference in value per pound.

My opinion is that bee-keeping will, in a few years time, resolve itself into a speciality here as in America, rather than in a wide spread application of modern methods. The trend of things commercial lies in that direction, and honey-producing will follow suit. Trade demands are also engendering the output of a uniform article. In the past, producers of a few pounds of honey had a difficulty in selling, whereas larger quantities have been saleable when a regular supply of uniform quality can be depended on by the trader. This has been my experience.

Residents in "Villadom," and occupiers of suburban dwellings, who take up bee-keeping as a fad, or to employ a leisure hour, will not make any appreciable difference to our ranks as affecting the market price of honey; their production will rather tend to create consumers by cultivating a taste for honey among their friends.

Our Journal.—In recent numbers I notice that some well-wishers of the B.J. have been suggesting an effort on the part of readers for increasing the circulation. The commence-

ment of a new volume is the time for such an effort. Then, when we have a wider circulation, the advertising pages will be of increased value to advertisers generally. There can be no objection to an extension of the advertisement pages by admitting trades outside bee-craft, as the reading matter is easily removed from the advertisement pages when required for binding. Thus the most fastidious cannot complain. Our bee-appliance advertisers might object to their advertisements being mixed up with those of a general kind, but this could easily be arranged by classifying the advertisements on separate pages.—WM. WOODLEY, *Beedon, Newbury.*

SOME BEE NOTES AND "HINTS."

FROM A DISTRICT IN WEST CUMBERLAND.

[2338.] Bee-keepers in Cumberland, owing to the severe frosts we had in January and February, and the cessation of the honey-flow so early as July 2, caused by a severe hail-storm on that day and cold and wet weather during most of the month, have not had a big honey harvest this year, although some of us whose bees were strong in the beginning of June secured fairly good "takes." I have heard of many who declare their average this year is only from 13 lb. to 20 lb., while in 1894 they got over 50 lb. per hive. I, with a few others, had little to complain of. My average per hive (spring count) was close upon 45 lb., but very few of my sections were fully filled in consequence of the honey-flow being so soon over; and so, finding my hives crowded with bees, I looked about for some employment for them during the slack time which followed.

Work for Bees in Drawing-out Combs.—After extracting on the first week of July, and returning the empty combs, I found the bees doing nothing, owing to the weather, and, having no heather near, I experimented with two of my strongest hives by removing the empty combs that had been put through the extractor, and afterwards cleaned out by the bees, giving instead frames fitted with foundations, which I hoped they would draw out; but, although covered with bees, nothing was done for some time. I then tried if feeding slowly (a pint of syrup or so a day) would induce them to draw out the combs, and it did so to the extent that in a short time I had some beautifully—though not fully—drawn-out combs. The best of these I removed and replaced with more frames fitted as before, so that by the end of September had about thirty frames of similar new combs from these two hives. By feeding sooner and setting my six hives to work, it is hard to say how many combs I could have got drawn out. This may be a common thing to do, but not about here. I therefore venture to offer a "hint" to those who know the value of a few dozen drawn-out combs put carefully away for use another season.

Shape of Honey Bottles.—The shape of the 1-lb. honey bottle for easy packing was discussed not long ago in your columns, but why not follow the shape of the honey-cell, as we all know space cannot be used up to better effect than by honey-cells? And, besides, they would look very neat for the table, and the different shape of bottle cannot possibly make much difference in price.

Do Bees carry Eggs?—I suggest that all who can should try a few experiments another season, and report. A good many of us are known to be rather sceptical about this matter. One experiment, for instance, might take something of this form:—Remove the queen from a hive, and eight or nine days later—when the larvæ left in the hive were too far forward for any more young queens to be raised, other than those already started—cut out all queen-cells, and on the following day place a piece of comb containing eggs on the floor-board. Would the bees carry any of these eggs up into the hive to produce a queen or queens? If they did, all uncertainty on the point would be at an end.

Keeping Honey in Sections over a Year.—Place sixteen 1-lb. sections in a common tin biscuit-box, 9 in. by 9½ in. high, just when taken from the hive. Then gum a strip of paper round the lid to exclude the air. This done, and the honey will keep liquid, and without granulating, for a year or more. I am using 1894 sections at present, in as good condition as when taken from the bees, and have kept sections in the same way for two years without granulating.—J. T., *Baggrow, Carlisle, December* 10.

LAYING WORKERS.

REPLY TO DR. MILLER.

[2339.] I have great pleasure in responding to the request made by Dr. C. C. Miller on page 502 of your last issue, and if I can "prove myself wrong"—as the worthy doctor invites me to do—shall not grudge trouble in the operation. I must, however, say candidly and at once that although I have not seldom gone to no end of trouble to prove myself *right*, the proving me "wrong" is a task I generally leave to other folks. But to come to Dr. Miller's letter:—

In considering the points raised it must be borne in mind (1) that bees possessing one or more fertile workers are in an abnormal condition, and consequently not quite accountable for their actions. (2) That bees under this condition would not all act alike. (3) That climatic conditions would affect their action in a more or less marked degree; and (4) That different races of bees have their own distinctive idiocyncrasies under all conditions. Hence the great value of Dr. Miller's communication, as from his experience in a distant land under

different surroundings, some light may be thrown on matters in which even bee-men who are "Doctors (may) differ;" as when Dr. Miller asserts that the presence of eggs in a queen cell indicates the presence of a laying worker. It must not be understood, however, that I intend to interfere with that particular bit of theory. It may be perfectly correct and I shall pay careful attention to the subject in the future.

We all know how easy it is to be mistaken in bee matters, and how greatly circumstances alter seemingly similar cases. In several of my hives this season laying workers appeared, two cases being distinctly impressed on my mind. In one a hive came through the winter strong in bees, but minus the queen (a hybrid Cyprian). In April I examined this stock, and found no brood, but most of the combs contained eggs, several in a cell, and laid apparently without any attempt at regularity, with certainly not more than six or eight cells in any single cluster in which there was not a cell or two eggless. The eggs were, moreover, deposited in worker and drone cells in a manner which I can only describe as indiscriminate. There were many queen-cells, including one from which a queen had hatched at some time but could not be found. In this case, so far as my memory serves, there were no eggs in the queen-cells, and I do not think it possible that I should have overlooked them had any been present. I did notice that all the eggs were deposited within the space the bees could cover, naturally concluding that the laying powers of the queen outpaced the covering capacity of the bees, thus accounting for the multiplicity of eggs in each cell, but this was clearly proved not to be so. The second case occurred in July last in a five-frame nucleus, in which a young queen was lost on her mating trip, leaving sealed brood behind. Embryo queen-cells were started, and I gave a nearly ripe queen-cell. On August 5 I found the queen-cell unhatched, and no brood; on the 7th the queen-cell was cut down. On looking for a queen, I noticed a small patch of eggs in centre frame, but no queen. On the 10th still no queen, but the hive with "eggs everywhere in worker and drone cells, just anyhow," averaging 'six to eight in a cell, and extending to cells not covered by the bees at all." The details quoted are from my note-book, and it struck me as most curious. In this case there were positively *no eggs* in the embryo queen-cells, and the brood raised from all these eggs were drones.

Without asserting that laying workers do not deposit eggs in queen cells, I can speak confidently only of matters as I find them. To see a laying worker ovipositing, is a sight recorded to few bee-keepers, and while envying Dr. Miller, I should like to ask whether he ever had a queen cell completed over eggs has deposited, and with what result! Dr. Miller says plurality of eggs is a sign of a laying worker, but a queen with insufficient bees will duplicate or even triplicate eggs in a cell though not to the extent of six or more.

One phase of this interesting question deserves more than passing attention, viz, what constitutes a laying worker? In other words, in what stage of development are her ovaries? To my mind it is clear that all workers are not capable of producing eggs. Do errors in diet during the larval stage effect the question? I rather think so, for we know that queens carelessly raised are little more than half-workers. I would therefore suggest that workers not properly *weaned* are little less than half-queens.

In concluding, permit me to express my hope that Dr. Miller will favour us again, and that shortly, with more of his views and experiences on bee matters. Friendly intercourse of this kind can only tend to the benefit of all, while good fellowship—always *good*—is not too plentiful nowadays, and I am only echoing the feelings of beemen here in wishing all our brother bee-keepers on the other side, and Dr. Miller in particular, health and a prosperous 1896.—H. W. Brice, *Thornton Heath.*

MR. WELLS' REPORT FOR 1895.

[2340.] It is just twelve months since my report for 1894 appeared in B.J., and I am again late in sending a brief account of my bee doings for 1895. The causes of delay are devoid of interest, and so I will proceed with events concerning the bees.

In the autumn of '94 I decided to work only seven hives this year, six of them were packed for the winter of '94-5, well stocked with bees and stores, and, of course, two queens in each. The seventh hive—holding twenty frames—had in it four queens and four lots of driven bees of a very fine strain, all of which queens I wished to save in the event of contingencies during the winter. These driven lots were each placed on three frames of comb, the two centre lots well supplied with stores; the two outside lots were, however, sparely furnished with food, so I decided to help them out with a cake of soft candy. This I duly made, but, owing to after-events, not necessary to explain, was never given to the bees until too late to be of service; for one day at end of February this year, on examining the hive to see the cause of the quietude of its two outside compartments, I found that the candy had never been given, and the poor bees had died of famine! My other fourteen queens were, however, safe, with plenty of bees for the time of year, and, strange to say, the two driven lots proved my best stocks this season, yielding me 231 lb. of extracted honey.

My hives were strong in bees and all were supered for the fruit bloom, but the unfavourable weather prevented much storing in

surplus chambers, though the bees increased rapidly in numbers. Beyond giving surplus chambers (to avoid overcrowding, the bad weather took away much of my interest in the bees, but as in some hives they did not increase as usual, and the end of May had come, I took off the supers in order to examine brood nests, and found that five of the seven hives were more or less affected with foul brood! I at once set about doing my best to cure them, and by the 10th of July not a single bad cell of brood was to be seen. The previously affected stocks afterwards storing quite a nice lot of honey. At close of the season I had taken in all 685 lb. of extracted honey and 39 lb. in sections. I kept no account of the surplus yielded by my second best hive, which was not diseased, but I estimate it at 200 lb. extracted honey, and 24 lb. in sections, the remainder being got from the best lot referred to and the five foul-broody hives.

I feel that few can conceive the amount of trouble this disease has caused me in various ways. The large number of store combs I had on hand could not be again used and so it became necessary to melt down all in the least doubtful. This has made my "take" of wax this year weigh no less than 85 lb.

I thought to have been able to report a complete cure of foul brood among my bees, but when packing for winter I found two hives still slightly affected. I therefore defer further remarks till the spring of '96, when I hope to write you again. My financial position with the bees for 1895 is as follows :—

85 lb. extracted honey at 7d. ..	£19	19	7
39 1-lb. sections honey at 10d...	1	12	6
85 lb. wax at 1s. 4d.	5	13	4
Total	£27	5	5
Deduct total expenditure during the season	4	1	9
Balance for labour ..	£23	3	8

The very large amount of wax this year is, of course, accounted for by the melting down of so many stock-combs; but any readers who may doubt the weight of my "wax-cake" for '95 can have ocular demonstration of its weight, as it is still in my possession, and will be for some time, unless I can get a better "bid" for it than my present "highest," viz., 1s. 4d. per lb. Some readers may wonder why I reduce my stocks, if bee-keeping pays me so well. My answer is (1), nearly the whole of my time is now taken up with my ordinary business, which is quite apart from "the bees." (2) My two sons, who formerly did between them the largest part of the labour of the apiary, are now away in South Africa, and so more of the work falls upon myself; (3) Seven hives well managed pay far better than fourteen badly attended to, and so the proportion per hive is much higher, and the labour, consequently, less in comparison. My district being a poor one for honey, compared with some others in Kent, and the bees having to go long distances for it after the first week in July, I may say they get a good deal from plants which I grow for them on such waste lands as rough banks and hollows about here. Some are also grown in my garden, among which may be named the white melistus — a splendid honey plant, growing anywhere almost—the seed of which was sent to me several years ago by our esteemed editors; I shall be very pleased to send a few seeds to any one forwarding me a stamped and addressed envelope The Chapman honey plant which I grow is another good plant for honey; I will also send free seeds of that. Borage also is good, but does not transplant well.

I must apologise for taking up so much space, but if I am spared until another year I hope to be able to report a mastery over foul brood; it has, however, cost me something by way of labour, and not a little for the stuff used. Hoping that few bee-keepers will ever have a similar experience of this disease to mine of 1895.—G. WELLS, *Aylesford, Kent, December* 11, 1895.

BEE NOTES FROM SUSSEX.

[2341.] Being at last in a position to give a correct summary of the results of my bee-keeping for 1895, I do so as an encouragement to any who may be placed in the same position as I have found myself—that is, be obliged to puzzle out everything about their bees, whether theoretical or practical, for themselves, from books, or the invaluable and ever-welcome B.B.J. and *Record*, without ever having been able to see a bee, skep, or hive handled by another, or to obtain any help from a brother bee-keeper in the management of their favourites.

I began the season this year with five colonies. Nos. 1 and 2 were strong. No. 3 was a single colony in a "Wells" hive, with access to both sides. Nos. 5 and 6 were weak halves of one original hive, divided in mid-April to preserve a fine Ligurian and English hybrid queen, refused by the queenless side of the "Wells" hive, all the bees of which concentrated ultimately on the other side. All except No. 5 were black bees—I believe, of pure race.

On the memorable swarming day, Saturday, June 11, two enormous swarms issued from Nos. 2 and 3 ("Wells"). Returning home in the evening, I found the lad I employ had cleverly secured these—which had settled accommodatingly in a neighbouring field—in skeps; and by working hard and late, we hived them as best we could. Next (Sunday) morning they simultaneously came out again about 10.30, flew clean away, and were utterly lost. I have strong reason to believe I also lost a swarm from No. 4 at some unknown time.

I prevented swarming in No 1 by using one of Hole's swarm-catchers. So far as I am

aware, no swarming was even attempted ; and the yield of honey was the largest from any of my hives, except the "Wells." Too late, I put another swarm catcher on the occupied side of No. 3 ("Wells"). In the end, I found both stocks queenless ; and being compelled to go abroad for a month's holiday before I could requeen them, I lost them both. Just before leaving, however, at end of July, I managed to divide No. 4, having divided No. 2 earlier. In mid-October I distributed four skeps of driven bees between the two sides of the now empty "Wells" hive ; hived another strong skepfull in a single hive—I had previously hived a stray cast—later I bought another hive and stock ; and thus I start for a fresh season with nine stocks and queens.

With all these adventures and misadventures the honey yield has been as follows—premising that I commenced with no built-out super combs, but with about forty more or less built-out sections :—

		1-lb. sections.	Extracted lbs.	Total lbs.
No. 1.	Single : blacks ..	63 ..	18 ..	81
,, 2.	,, ,, ...	30 ..	23 ..	53
,, 3.	Wells : ,, (1 stock)	— ..	115 ..	115
,, 4.	Single : ,, ...	8 ..	5 ..	13
,, 5.	,, : hybrids ..	— ..	18 ..	18
	Total lbs.	101 ..	179 ..	280

The sections were magnificent, averaging, I should think, quite 17 oz., many being over 18 oz., and even reaching 19 oz. in weight. So I have no hesitation in calling them each 1 lb. I had no difficulty in disposing of sections and honey at 10d. per section and 10d. per lb. This further simplifies accounts. My bill therefore stands as follows :—

	£	s.	d.
280 lb. honey at 10d.	11	13	4
2½ lb. wax at 1s. 6d.		3	9
30 built-out sections, say at 2d.		5	0
50 super (wide) and brood combs at 6d. ..	1	5	0
Total	£13	7	1

I sold all I cared to part with—about two-thirds of the above honey, and the wax—to one firm, who have offered to take all I can produce next year ; so I presume they are satisfied, as I am.

If all those who forward reports of their "takes" would do so in the form I have tried to follow out—viz., tell us what stock of built-out combs and sections they start with, and what remains to them after melting down for wax at the end of the season, I suspect comparisons would be more fair, and possibly less startling, than they now sometimes are.

Next week I will furnish some notes on the action of Hole's swarm-catchers.

I will only now add that of the above, 49 lb. extracted honey was yielded in August, after I had begun taking off supers in view of my holiday—viz., 8 lb. from No. 1 ; 18 lb. No. 2 ; 5 lb., No. 4 ; and 18 lb., No. 5. Had I left on more supers I believe I should have obtained much more, as on my return in September all the hives were plentifully stored for the winter, except one of the smaller halves of a divided hive, since fed up.

I have apportioned the yield to the various hives as best I can ; but it is only rough, as unfinished sections were shifted from hive to hive to fill up crates and ensure capping over. No. 1. and the half-tenanted "Wells" hive, both of which had on Hole's swarm-catchers, did best, but I lost the queens, and eventually the stocks, in both instances. No 2 I divided early in June. No. 4 was but a weak half-hive by June, and suffered from further division early in August. No. 5 (the hybrids) refused to go into a section rack all the summer ; did not swarm (so far as I know), but built out and fairly filled a "lift" of full-foundation wide-spaced combs in August, as did No. 1, after all the section racks above had been taken off at end of July.

It is easy to be wise after the event, and doubtless I ought to have done better ; but even with all my mishaps and bad luck the outcome is sufficiently satisfactory to induce me to hope that I may do proportionately better next year by virtue of the very experience I have thus gained.—W. R. N., *Sussex, December* 14, 1895.

THE FOUL BROOD CONTROVERSY.

[2342.] The correspondence on the above subject has had a remarkable and unlooked-for development, inasmuch as it has come down to a distinctly personal phase, of which I am for the time being the central figure. The process has been so guided that it would almost appear that "mine own familiar friend in whom I trusted" has been carefully nursing a grievance and has proceeded to explode it in a manner that shall seriously damage my position as a teacher of bee-keeping.

I fear the comparatively short letter of Mr. Till's (2332), appearing in the current issue of the JOURNAL, will necessitate my asking your indulgence to enable me to reply to the charges therein formulated. With curious forgetfulness the letter concludes : "I deeply regret having to probe this question thus, but you and your readers will see that Mr. Garratt's challenge leaves me no option." Would Mr. Till have it to be understood that insinuations can be cast by him and yet not be noticed by those whom he aims at ? The challenge was his, not mine : therefore he is entirely responsible for the prolongation and extension of the controversy.

The term "heretical doctrines" has been imported into the discussion. Will Mr. Till kindly explain what this means ? And at the same time say who are the orthodox elect ? Is he not aware that the opinions of many prominent bee-keepers are still open upon the question of how to deal with foul brood ? Does he ever call to mind that his short experience as a bee-keeper hardly justifies him in taking upon himself to judge and publicly denounce, on *prima-facie* evidence, those who have had twenty and thirty years' experience ?

Mr. Till has indicated three apiaries in which foul brood has been discovered, and indicts me before your readers in connection with them; two of these being owned by mutual friends, and the third by the South-Eastern Agricultural College at Wye. As the latter, for public reasons, is the most important case, I propose to lay the facts relating to it before the public in the fullest manner, giving the entire history of the apiary from its formation. From what follows you will see that I was not unmindful of the necessity of using great care to secure healthy bees.

Meopham, Kent,
January 24, 1895.

Dear Sir,—Can you supply me with, say, five stocks of bees early in the spring? I want them from an apiary and district which are entirely free from disease, and they should be headed by young queens. If you can do this I shall be glad to know the price you can do them at; and I should also like to know how you would propose to send them. Your early reply will oblige.—Yours very truly,

J. GARRATT.

Mr. W. Woodley.

To this Mr. Woodley replied that he could not undertake the supply. I then wrote to Mr. John Walton, of Weston, near Leamington, a similar letter.

This also being unsuccessful, I was somewhat at a loss where to turn to; but on March 2 I received a letter from a gentleman who had come into Kent from Oxfordshire, telling me that, on account of his intended removal to another county, he wished to dispose of his bees, stating that "they were strong lots, with young queens most of them." I thereupon wrote to him:—"Can you give me an assurance that the bees are free from disease?" and received in reply:—"As far as I know, the stocks of bees in my hives are in a perfectly healthy condition."

Being desirous of making an early start at Wye, I deemed this, coupled with an examination which I subsequently made of the hives, a suitable means of stocking the apiary, and accordingly four colonies were transferred to makeshift hives, and thence ultimately to the new hives, which were in readiness for their reception at Wye. During the summer I discovered slight evidence of foul brood in one hive, and of this no secret was made, as I saw that, however much it was to be regretted, an opportunity was given to educate the students in its appearance, character, and treatment; and this was also done at the summer meeting of elementary schoolmasters held there in the month of August. The disease has been held completely in check, and I have confidence that it will by next spring be entirely eradicated.

In the report which Mr. Till says "ought to have been first passed by the Council of the Kent B.K. Association," but with which I may say the Association, so far as it (the report) related to Wye, had nothing whatever to do, I said advisedly that "results of a most encouraging kind had been obtained," for in spite of the misfortune which had attended the establishment of the apiary, the experiment has proved the locality to be eminently suited to bee-keeping; the quantity of honey gathered, and the fact that prizes and honours have been gained at leading shows, fully testifying thereto. Why Mr. Till should be so ready to publish a damaging report without taking steps to ascertain the real circumstances, and abstain from finding out anything which might place the matter in a better light, can only damage his cause and expose him to the imputation of *mala fides*.

With regard to the other two cases I will not attempt to go into them at length. I am unable to recall with any precision the source from which the bees were drawn, whether from my own apiary or not, and the only fact that I feel called upon to own is that the disease did make its appearance, but the surrounding localities were previously notoriously affected with foul brood. I may add to the foregoing that in no single apiary used at the numerous centres of technical instruction which I have attended during the past three years has disease been discovered.

It would have been more creditable to my assailant if he had, before publicly pillorying me, asked for information which I could have supplied; and he has to learn yet that the question of the treatment of *bacillus alvei* has been helped very little by his high-handed action. — JESSE GARRATT, *Meopham, Kent, December* 12.

NOTANDA ET INQUIRENDA.

DRIVING—LARGE ENTRANCES—WAX.

[2343.] Your correspondent, "Self-Taught" (2325, p. 499), is candid enough to explain that he still has some difficulties, and is seeking knowledge from others. With regard to driving he appears to have got along as well as, or better, than many in their novitiate days. Of course "driving" is preferable to "bumping" in autumn, where skeps are heavy, and the owners, as is mostly the case, insist upon the combs remaining intact; but if he will cause the bees to exhibit the same state of consternation that the "bumping" induces, by thumping rather hard upon the crown of the skep after the dose of smoke, and then giving a little more smoke as the hive is raised from the block, his driven bees will give him no more trouble. Wherever I have driven bees the owner and family generally stood close by during the operation, whether few or many were being taken, and I do not remember that any one was ever stung; or myself, unless pressing a bee without noticing it. "Self-Taught" will find, however, that gloves must be dispensed with before his

lessons in this direction can be satisfactorily completed.

Had your correspondent seen bees properly driven, one of his closing paragraphs would never have been written The disagreeable occurrence he refers to was not the effect of "a fine spirit," but a fault of his own that will rectify itself by further experience, and certainly he would consider the expert does undertake driving in a light and careless mood —he might call it an absolutely reckless mood —treating them, as he does, like so many harmless flies. "Elaborate precautions," "untoward results," are terms and conditions unknown to an expert.

Now as to a large entrance. Are not your correspondent's three objections really without any foundation in fact? During the swarming season, while such entrance is necessary, wasps are barely in evidence, and need not be considered; while a mouse could not live for ten seconds among the teeming thousands found in a well-stocked hive. The depredations of these enemies are only to be feared after autumn has set in; but even then can be guarded against by a smaller entrance. In the case of robbing bees and wasps at that time of the year, a shaded entrance is the best safeguard, even for weak nuclei, while if the entrance faces north, hardly any trouble will be experienced in this direction.

I have yet to find any more difficulty in handling bees with extra large entrances than with limited openings. In practice the former presents by far the more effectual means of subduing the bees, should they really want such treatment during the busy period.

As a concluding note I would remark that where cappings are not too bulky the simplest plan for clearing them from honey is to place them in the oven with a very little water at the bottom of the vessel. This carries out a double operation at a stroke, without any messing; very little refuse is found where good combs have been extracted from, while the honey is of great density. It is never safe to leave the bees to clear up honey in the open. Even if robbing is not induced, it may be the means of spreading disease—present, but so far undiscovered.

In rendering wax in larger quantities and from old combs, the vessel receiving it should not only have water at the bottom, but that water should be sufficiently hot all the time it is running to keep the whole of the wax just melted, when no dross will be found intermixed, and very little on the bottom of the cake when allowed to cool slowly by the fire, and the vessel covered up.—SAMUEL SIMMINS.

"VERIFY YOUR QUOTATIONS."

[2344.] This excellent rule in literary life might, I would suggest, be well applied to some of the titles placed above the articles in the B.B.J. "Come on, Macduff," (placed recently over a very combative contribution) appears in the ordinary editions of Shakespeare as "Lay on, Macduff;" and curiously enough, the speaker (Macbeth) was subsequently slain by the Macduff whom he challenged.—A CRITIC.

PREPARING BEES FOR THE HEATHER,

AND PREVENTING LOSS OF SWARMS.

[2345] As a regular reader of B.B.J., and a young bee-keeper from north the Tweed, please allow me to give my experience on the above subject to your many readers. In 1893 and 1894 I lost swarms after taking bees to the heather, so I set about the following plan this spring, but, owing to the bad season all through, I can scarcely call it a practical test. In May or June, when the bees show signs of swarming, I examined all combs and cut out queen-cells where they happened to be, and placed a lift of shallow-frames under brood nest with starters only in the frames. This I left on for the rest of the season; at same time I put a rack of sections on top, but, owing to the cold, dry weather, and the scarcity of clover, these were not filled, but were sent to the heather with an empty rack underneath, and I had the pleasure of getting twenty-one half-sealed sections and twenty-one of drawn-out combs. The bees had four shallow-frames in the "lift" built out, and by next year, if all goes well, I will place them on for a super during the clover flow.

In my opinion, the above will do away with the great evil of swarming; but about here, if your bees do not swarm, they are said to have foul brood or some other such evil.

Hoping to hear from some other novice or old bee-master through your valuable paper,—NOT TOO YOUNG TO LEARN, *Larkhall, N.B.*

A RETROSPECT.

[2346.] The chief topic of conversation here is the weather. Old folk say they never remember such a wet month (bad memories I suppose); young folk are down with coughs and colds which strangely are just at their worst when school time approaches; middle aged folk, in fact, one and all, do nothing but abuse the poor weather, but for my part I like to see it, for it is only at such times as this that the life-giving moisture reaches the roots of the great forest trees, which now spread out new nets of rootlets to catch the harvest they have waited for so long. Those who have had the handling of plants know very well how eager they are to make an abundance of root in the late autumn. Not only the eastern hyacinth of glass-bottle fame, but our own wilding, the hyacinth or blue-bell of our woods. When digging round the boles of great trees at this time of the year I

often find these white bulbs, pushing out new roots into the moist earth, while the crowns show a strong desire to have another look at our world—which is no doubt their heaven. Wood anemones, too, have white knotty points where tender leaves and flowers will be, and the meadow saffron broad white fans of roots from their leathery bulbs. These kings of the hedge and of the meadow are, perhaps, of more importance to the world than we imagine. Nature is now laying the foundation of next summer's flowers—the apple blossom, and "May," alder and hazel catkins, clover heads as the sand on the sea shore in multitude, all the flowers which our bees love. Therefore, I hope that bee-keepers at least will bear the present dismal skies and wet with fortitude, remembering the past and with hope for the future. It is of the past I wish to write now—the past splendid summer! My memory being poor, or perhaps the other summers being so far off and this one so near, I think it the best I have ever known. Years ago, the climate of this district seemed to go all awry. While the fruit trees blossomed, it was all east wind. The grass grew so strong as to choke the clover. When the limes flowered there was the east wind again. Year after year the bees stored honey dew in the supers, and directly July was out strife entered into their hearts and there was constant warfare—few bees, then, like the ancient Irish kings, died peacefully in their beds. From an entomological point of view, also, the summers were wanting. The wall-butterflies were very scarce in their accustomed place. Tortoiseshells, red admirals, peacocks were rare, although their food-plant, the stinging nettle, was as abundant as ever. Small "coppers," like their human namesakes, were not to be found when wanted. Common blues belied their name: orange-tips came not to lay their eggs on the dame's-violet. The whites only came to pay a visit to their loved cabbages. The birds left us, and the few that stayed seemed to have no relish for their natural food, for the slugs increased considerably more than a thousandfold in my garden. There was I, night after night, long after ordinary humanity was asleep, picking sleek slugs off my most cherished plants, Alpine androsaces, soldanellas, campanulas, and the like, for, believe me, the more rare the plant, the more relished by slugs. I often wished I could meet with a whole regiment of snail collectors—for there are such—those that grow enthusiastic over slugs, who blow them up, dry, and paint them and label them. I will plead guilty to collecting many natural objects, such as plants, butterflies, and bees, wasp species, dragon-flies, &c., but one must draw the line somewhere, and I drew it at slugs. If I did collect them it was to drop their repugnant selves into a tin of salt and watch their death-kicks—if anything without legs can be said to kick—with much satisfaction. There were at least four kinds. One you could stand on without occasioning him much perturbation! Another was of a kind out of which I should say they make india-rubber. Others were young and tender, and some had shells on their backs. I rather liked the latter because the shell was a convenient handle to carry them by. But this is not to the point! Well, what with one thing and another, I began to get disgusted with the locality. I thought to myself, "perhaps it is being so close to this great city, Birmingham — for our scientists say there is a great cloud of dust hanging over all large towns, so the sun cannot exert his purifying influence as he would do, in their near neighbourhood." I became discouraged. I thought I saw this dust settling into the flowers, where the bees gathered it together with the honey—as tares with wheat—so that the honey was dark. It seemed to get into my eyes and heart so that I saw everything as through a glass darkly. "Then," said I, "I will remove my household, dogs, cats, bees, &c., from these ash-manured gardens. I will hark away to the violet fields of, say, the Vale of Evesham. I will make hives and fill them with bees—the bees shall sweep the flowers for me. I will have out-apiaries to provide folk with swarms gratis, for nothing. There are great seas of flowers, clover and heather. I will launch some arks of 'Wells' hives on them." But the fates decreed otherwise. I lingered on here almost without hope. The leaves on the trees appeared to wither and become seared ere they had reached their prime. You could not find a nice fresh branch of birch or beech to give to caterpillars after June was gone, whereas I have no doubt the beech on the Chiltern Hills, behind High Wycombe, was fresh and beautiful well on into September.

(*Conclusion next Week.*)

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

SARUM (Salisbury).—*Candied Honey as Bee-Food.*—Candied honey is not suitable for bee-food, because all of such honey that is available for the bees' use is the moist portion. Our personal experience of giving candied honey as food is that the dry granules are cast out by the bees or allowed to accumulate on the floorboards in heaps. It is therefore advisable to melt candied honey along with hot syrup if intended for bee food. Of four samples of honey sent, Nos. 1, 2, and 3, are excellent in consistency, colour, and brightness, No. 1 being so dense as to lead us to suppose it has been "ripened" by heating. But the flavour of all three somewhat lacks character. In this way, too, No. 3, though not so thick as No. 1, is a shade best in flavour, so that there is really little to choose between. No. 4 is thin, and beginning to show signs of fermentation.

Editorial, Notices, &c.

"EXIT" 1895!

How much of import is contained in the simple word of four letters in the above heading! "The departure from the stage of a player who has played his part." Thus says the dictionary, and, so far as these columns, the year has fulfilled its mission; the current number ending our chronicle of events for 1895. Looking back, and narrowing our view within the little world of "bee-dom"—while still further confining ourselves to the part played therein by this journal—several questions arise. One may say, "What have we done?" Another adds, "How have we done it?" Or the pith of the subject may be summed up in "Where do we stand to-day?"

Now, although fairly well versed in the "query and reply" business, an obvious difficulty presents itself in the very first question we have ourselves suggested. To tell what *we* have done is no reply, seeing how large a portion of our task has been a mere chronicling of the work done by others, in so far as conducing to the general advantage of bee-keeping and of its votaries. The British Bee-Keepers' Association stands first in regard to this, its Council having initiated, worked out, and brought within the sphere of probable realisation, measures which must indisputably tend to the all-round advantage of the pursuit.

County Associations, too, as a rule, have loyally kept shoulder to shoulder with the parent body in the forward march, and the work of the year may be said to have culminated in the conference reported in our last issue. The proceedings thereat fairly sums up the position as we stand to-day, and it is not too much to expect that the end of 1896 will find bee-keepers within sight of the goal towards which so much of effort has been directed. In other words, our hope is that in the coming year they may be either actually guarded by law against injury through ignorance, carelessness, or wilful culpability among themselves, or not far removed from the possession of sadly-needed protection against all who are wrong-doers.

The amount of thought and labour involved in the progress already made is known only to those who have taken part therein; but, whether or not complete success follows, the labour has been alike ungrudgingly given and unselfish in motive. Speaking, therefore, for the workers referred to, we can, with some confidence, invite attention to the present position of vital matters connected with bee-craft as an answer to the question, "What have we done?"

The second point—"How have we done it?"—may be taken as more closely referring to the BEE JOURNAL itself than to the Associations whose official organ it is still our pride to remain. Briefly, then—and for ourselves as Editors—we have done our best in an honest endeavour to deal fairly with complex questions—when such have arisen—besides a few diverse opinions, and the somewhat conflicting interests inseparable from our position. Whether the work has been well or ill done, we are perforce content to be judged by the record of our action as it appears in the volume now ended.

Finally—"Where do we stand to-day?" This, too, may be considered as a question directly touching the B.B.J.

Well, in simple words—which are facts—we shall start on our twenty-fourth yearly journey with an augmented rather than a diminished number of contributors; while our general correspondents are so numerous as to call for a word of apology—now sincerely offered—from us for what must at times seem like discourtesy owing to the impossibility of our replying so promptly as we could wish to inquiries.

So well have we been supplied with interesting "copy" as to be nearly every week reluctantly obliged to hold over articles for want of room. Since its very early days it has been the privilege of the BEE JOURNAL to say—what we again repeat—that it is written *by* bee-keepers *for* bee-keepers, who, in the main, may be said to know whereof they speak, and the fact of its staff of writers being entirely voluntary renders their contributions doubly valuable in every way.

It is not for us to say whether the contents of the volume now ended are better or worse than those of its predecessors, except for such appreciation as

is shown by increased circulation—which, by the way, is steady and satisfactory. It therefore only remains for us to gratefully acknowledge the generous help rendered by contributors, and to thank readers for their warm support, while hoping for its continuance. For an answer to the final question suggested by a retrospect of the now ending year's work, we can report the BEE JOURNAL as entirely free from the Yorkshireman's charge of getting "no forrader." We thankfully declare it to be making good progress, and we are grateful accordingly. But we are none the less alive to the fact that if all who now find more or less of pleasure in the perusal of our pages would make an effort to procure for us one more reader the result—besides adding to our obligations to them—would be beneficial all round; and so with every good wish of the season to all for the coming year—we are, &c., THE EDITORS.

BRITISH BEE-KEEPERS' ASSOCIATION.

The Education Committee reported that during the season examinations for third-class certificates had been held in sixteen centres, and there had been fifty-five candidates, of whom the following passed and obtained certificates:—Revs. G. J. Jarvis and G. H. Samson, Drs. Percy Sharp and Benjamin E. Jones, Messrs. R. Hamlyn-Harris, R. S. Peacock, S. Jordan, G. E. Puttergill, H. E. Twentyman, T. J. Horsley, R. Ness, W. Dixon, G. Ruddle, R. C. Salmon, H. E. Jeal, Miss Windemer, Miss E. Brooks, T. Potts, Miss L. A. Dunnington, Miss C. H. Currie, G. J. Wright, E. W. Goddard, S. Knight, E. Turner, L. Smith, W. E. Nutley, E. Oakes, Miss Micklethwaite, Miss E. Atkey, J. W. Jacomb-Hood, Miss Meredith Jones, Mr. Rowland Sillito.

Examinations for second-class certificates were held on October 25th and 26th at thirteen centres. There were twenty-one candidates, and the following passed and have obtained their certificates:—

1. Dr. Percy Sharp. / Samuel Jordan. } Equal.
2. Dr. B. E. Jones.
3. Leonard Smith.
4. Miss E. Windemer.
5. Miss L. A. Dunnington.
6. R. C. Salmon. / Miss E. Micklethwaite. } Equal.
7. Miss E. Atkey.
8. Rev. G. H. Samson.
9. G. Jarvis.
10. S. Knight, Junior.
11. G. Ruddle. / J. Martin. } Equal.

Special foul-brood examinations for experts holding certificates prior to 1891 were held in May and October. There were nine candidates, of whom the following satisfied the examiners, and were passed, their certificates being endorsed.

First Class.

Rev. W. E. Burkitt.
Rev. E. Davenport.
C. T. Overton.
C. N. White.

Second Class.

F. H. K. Fisher.

Third Class.

T. Pritchard.

Special foul-brood examination to qualify as experts to B.B.K.A., Roland Green.

Correspondence.

The Editors do not hold themselves responsible for the opinions expressed by correspondents. No notice will be taken of anonymous communications, and correspondents are requested to write on one side of the paper only and give their real names and addresses, not necessarily for publication, but as a guarantee of good faith. Illustrations should be drawn on separate pieces of paper. We do not undertake to return rejected communications.

Communications relating to the literary department, reports of Associations, Shows, Meetings, Echoes, Queries, Books for Review, &c., must be addressed only to "The EDITORS of the 'British Bee Journal,' 17, *King William-street, Strand, London, W.C.*" *All business communications relating to Advertisements, &c., must be addressed to* "THE MANAGER, 'British Bee Journal' *Office*, 17, *King William-street, Strand, London, W.C.*" *(see 1st page of advertisements).*

PREVENTING SWARMING.

[2347.] Referring to the letter of Mr. Simmins (concluded on page 506), I notice his nadir, or lower chamber, is not added until the second super is placed in position; and then he says:—"Little or no comb building will be carried on there" (in nadir). Now, I ask, how would a hive "conquer" the invasion of their enemies with a 1½-in. entrance? I know of a well-known bee-master who asserts that comb-building is the real value of a nadir. These statements do not fit very well together. I should, therefore, like to ask your readers to say of what practical value is a nadir? Personally, I always thought that the old Scottish system was to add a nadir first, to give room, and yet retain all the heat in brood nest should the weather be cold. If weather became hot, the bees have plenty of spare room to work in, either to store honey or build comb, without fear of brood getting chilled, as is too often the case when a super is given too soon. The modern apiarist tries by foundation and extracting to save all comb-

building he can. Without more knowledge on the subject, it appears to me a wrong system to give bees the pleasure of building what comb they like; if a nadir is given filled with combed frames, will bees store honey there if requiring room, instead of swarming? In other words, is it comb-building or room to store honey that will prevent swarming? — A WORKER, *Long Eaton, December* 16.

[2348.] In B.B.J. for December 12 (page 506) you publish the conclusion of Mr. Simmins' article on the "Prevention of Swarming." In the year 1894 in a "Blatt" hive, and in 1895 in seven similar hives I tried the "prevention of swarming" on Mr. Simmins' plan, and on both occasions I succeeded. The Belgian bee-paper *Abeille* has also drawn the attention of bee-keepers to the excellence of the system. — GENOUCEAUX, *Liège, December* 13.

HEATHER HONEY IN THE SOUTH.

[2349.] A close study of the habits of bees in the cottage gardens of Britain is sometimes useful and always interesting. An experience that came under my notice many years ago was in such a cottage apiary. The cottager was an intelligent bee-keeper, and, though not advanced to frame-hives, supered his stocks, and had at the time taken to "driving" instead of using the brimstone-pit.

There was on a continuous stand eighteen or twenty stocks in skeps, placed pretty close together, and on inspecting the various hives on a hot summer's evening one of the most interesting sights that I remember was taking place between two strong stocks in adjoining skeps, the floors, in fact, touching each other.

Between the two hives was a continuous stream of bees intermingling with each other, and all working in perfect amity. They had evidently been on these good terms for some considerable time, and with every probability of the two communities continuing to make common use of both hives for storage purposes. The excessive heat caused the bees in each stock to remain outside, partly on the alighting-board, but chiefly up the fronts of the skeps. They were not clustering idly to the alighting-boards—indeed, both hives were very rapidly filling fair size skeps with "beautiful heather honey."

Such a sight was suggestive of many things, and one result was the first (I believe) double-queened hive ever made. This same hive was exhibited at one of the earliest B.B.K.A. shows.

I use above the words "beautiful heather honey," and this was produced in the south. Although Mr. W. B. Webster's communication referring to the poor quality of southern heather honey appeared some time ago, I think the question must be interesting to not a few bee-keepers. One suggestion which may account for Mr. Webster's experience presents itself to my mind, and it is this:—Most of the heather that I know of in Berks is found growing amongst the pine woods. Now, if the heather honey spoken of was produced under the shadow of the Scotch fir, I can conceive nothing else but a very weak solution of the genuine article.

I do not pretend to say that harvests of good heather honey can be produced with any degree of certainty approaching that from Scotland, but I may be allowed to add my assurance that this has been produced from the heather of Surrey, and probably Hampshire also, and what has been once gathered will be again without doubt. From a long personal experience of the Surrey heather, on the borders of which I resided for many years, it may very safely be said that, given a hot August, with close, sultry nights, and an atmosphere charged with electricity, a slight rainfall which has been preceded by rather copious summer rains, and heather honey may be gathered in Surrey which for density, flavour, and that fine strong aroma peculiar to this honey, could be pitted against that produced anywhere north of the Tweed.

But are not the atmospheric conditions at that particular time of year in the north more favourable for the secretion of honey?—JAMES LEE, *Hornsey, N., December* 14.

"POINTS" FOR HONEY JUDGING.

[2350.] The question raised by Mr. P. Bois (2330, p. 503) is one of intense interest to bee-keepers generally, and I hope that the discussion his letter raises will lead to the adoption of some definite rules by the B.B.K.A. Council for the guidance of all judges. I believe there is a general agreement that the difficult and arduous task imposed upon judges is fairly and impartially performed; but I do know that a definite ruling on a few points would be welcomed by many who think that there should be as little play as possible for the idiosyncrasies of the judges. The points to be taken into consideration and the marks awarded will vary, and whether they do or do not is really immaterial if quality, that is flavour and aroma, determines the award.

First, one's attention is naturally drawn to the 'get up' of the exhibits, inasmuch as that is a very important point in attracting customers; but this point need not trouble the judge if competitors are compelled to start fair—at any rate when competing for the chief county prizes—by showing extracted honey in a similar pattern bottle, and sections in a similar pattern case. This done, colour will claim attention, but a judge will hardly err here, because I take it that the best samples of clover and sainfoin would be taken to give the standard. Then density, the test for ripeness, will be of great assistance to the judge in

thinning down rival claims, but in this matter an injustice may be done. Some samples equally ripe are of different density, the point of merit being sometimes obtained by the ingenuity of the exhibitor against whom I have not a word to say; but I do think that in all cases, flavour and not density should be the determining point, even if the best flavoured sample should fall a point back in density, or even a point in colour, because, after all it is the flavour and aroma of any particular sample that will give consumers a desire for more.

To illustrate this point I may say that an award of mine during the past season gave a little dissatisfaction owing to the fact that No. 2 in my award was decidedly No. 1, as far as density was concerned, and decidedly No. 2 in flavour. On a subsequent date, when judging at a show in the Midlands, I recognised bottles standing No. 1 in the above competition, among the exhibits in the open class, and at once declined to give the final awards in that particular class. Curiously enough No. 2 above was also there, and took the first prize solely on account of density, No. 1 taking a lower position, though it was afterwards shown that the gentleman who made the award, the hon. sec., and myself, were unanimously of opinion that the sample that gave way was in point of flavour the best in the class.

With regard to sections: having got uniformity by the rules guiding exhibitors, the points to guide the judge should be: 1, Cleanliness and whiteness of sealing. 2, Filling of section; that is, the comb should present a level surface and be built up to the wood and sealed all round. 3, Capping; I incline strongly in favour of a fairly thick capping, for then, with the other points enumerated, I believe we get the best, because the most saleable section.

There is another point to which reference may now be made. Those who, with the hon. secs. of the various exhibitions, undertake the duty of unpacking, and, if not sold, repacking exhibits, are in many instances put to unnecessary trouble which might well be minimised by the adoption of another rule: making it imperative that sections should be sent in spring crates similar to fig. 74 in the "Bee-keepers' Guidebook," and bottles in a box, and packed as shown in Fig. 76.—C. N. White, *Somersham, Hunts, December* 14.

DRIVING BEES.

[2351.] I have read the letter of inquiry, No. 2325, in to-day's Journal, in which your correspondent refers to driving bees, and how they sometimes turn on him. Having for many years past done a considerable amount of bee-driving, and undergone the same very unpleasant experience of the bees rushing out against one's face, it may be of interest to say that I have now completely overcome any trouble of that kind. For the benefit of others, I will, therefore, give my plan of operations, as under, if you can find space for the same:—I first provide myself with an old pan or pail; and with the empty skep, driving-irons, smoker, and carbolic cloth, I then puff in a little smoke, and at same time make sure to lift the skep up from the stand so as to loosen it entirely from its floor, then drop it in its place again; this is important. Next puff in a little more smoke to make all bees that are on the floor or stand run up among the combs. I then lay the carbolic cloth on the ground, litt the skep with the bees, and set it down on the cloth. The time occupied so far ought not to exceed a couple of minutes. The great mistake is in allowing too much time for the bees to gorge themselves. Then, raising the four corners of the cloth, carry the skep to where the driving is done, and, while fixing it in the pail and pinning the empty skep to the full one, the pan or pail, still keep the carbolic cloth on or over all the bees. When all is ready, pull back the cloth a little bit—say 4 or 5 in.—so as to leave an opening just where you want the bees to run up into the empty skep. After the bees have begun to ascend, and are quiet, the cloth may be taken away altogether. I have occasionally kept the cloth on until half or more of the bees have run up. Since adopting the above plan I have not had the least trouble in driving, while in years gone by I always had more or less fear as to what the bees might do. Now, however, I go about it with the greatest of pleasure, because of feeling confident of running no risk. But, as you, Mr. Editor, say, seeing it done once is much better than pages of writing.—Richard Williams, *Ludock, Cornwall, December* 12.

PREPARING BEES FOR HEATHER.

[2352] In the B.B.J. for December 5 "A Beginner" (2322, p. 495) asks a number of questions in regard to taking bees to the heather, and invites those who have done so to relate some of their experiences.

Without attempting a categorical reply to all "A Beginner's" questions, I would say that about the time when the heather is coming into bloom is the best time for removal, unless, as a matter of convenience, they are as well at home till this time.

Although as a rule swarming is past by the time the heather is in bloom, when the weather is warm a crowded hive occasionally does swarm, and to contract the brood-nest at this time must increase the tendency of such an untoward event happening. Accordingly I never do this in my practice; but sometimes the bees take this matter of contracting the brood-nest into their own hands, as the following experience will show:

In the first week of July, 1894, I hived a very large swarm in a ten-frame hive furnished with a comb of honey at each side, and eight frames filled with foundation between. Work

commenced at once, and in the course of a fortnight all the frames of foundation were drawn out, and well filled with brood in different stages of development. In the last week of July, when the first planted brood was hatching, I removed all my stocks (five hives) a distance of about two and a half miles, having first provided each of them with a rack of twenty-one sections, fitted with strips of foundation, and set them down in a moor where hundreds of acres of heather were just bursting into bloom. Three weeks later I made my first visit, and while four of the hives had done well, I was surprised, on removing the cover from the particular one I am writing of, to find the rack entirely empty both of bees and honey. This at once aroused my suspicions, and I took off the rack, when my worst fears were in a few minutes realised. Removing the outside comb, I found a solid slab of honey sealed from top to bottom, the next one was identically the same, and eventually I found that the two outside combs at the other side were in the same condition, while in the remaining six combs, filled with honey more than half-way down, there was not a patch of brood, or even an egg, to be seen, but in the centre of the hive, on the new combs, were several empty queen cells. Reasoning from this state of matters, I concluded that a swarm had come off, probably only a few days after I had removed them; that the young queen had not yet begun to deposit her eggs, and that the bees left in the hive had filled the cells as the young were hatched, until they had left her almost no brood nest at all. Removing the two outside combs, I returned again the same evening with two frames filled with foundation, and inserted them in the centre, and in a day or two breeding commenced. What became of the swarm I never could learn, more than one search amongst the surrounding heather being unavailing. I think I hear some of your readers saying—serve you right; why didn't you examine the combs when packing up for the heather? This I generally do, but I was a little hurried, and in this case, from the short time the bees had been in the hive, I concluded all would be right in these respects. Another practical experience of the folly of taking anything for granted where proof can be obtained.—AN OLD HAND, *Selkirk, December* 16.

A RETROSPECT.

(*Concluded from page* 520.)

Then came the change. Those lovely early springs! Snowdrops in February. March fine and warm, and what a blaze of daffodils in my garden then! April, the old joyous April of many smiles and many tears, when nightingales came, and the cuckoo; and my bees swarming before the end of the month! Sometimes I think I let these springs go by too easily. I might have spent more time in the woods gazing at the perfect development of leaf and flower, for how often do we see the young leaf torn from the bough in early spring. Sometimes our roads are strewn with them, and for that year the foliage is never what it might have been. But in the years of which I write it was as though the world was a perpetual greenhouse. The leaves expanded and the down upon them was not frayed away. The fruit-tree blossom was a dream of loveliness—no tropical plant could vie with it in beauty. The sweet air bore no petal to the ground before its time. No rude wind took the bees' pollen before he had it safely packed, or teased him by holding out a flower and then suddenly taking it away. The rides in the great woods near here were exquisite with plant and insect life. Hybernated "brimstone" butterflies, with battered wing, were there in plenty, also small tortoise-shells, and occasionally a peacock. Delicate wood-whites settled on heads of bugle flowers, while pearl-bordered fritillaries pursued each other over countless primrose plants. I used to spend whole days by myself in these woods searching for new plants or a rare moth, yet now, when I look back, I think I let those days go without seeing enough. Certain it is that such lovely springs are few and far between. The present year has, I think, even eclipsed the others. After the intensely cold weather of the early months the spring came all one way, and that from the sunny south, or perhaps some extra pressure on the Gulf Stream. It was not an early spring, but when fruit blossom opened, the bees were quickly into supers. Indeed, they gathered so much early honey that brood frames were blocked with it, consequently swarms were scarce. Clover was out early, *i.e.*, the first week in June. The bees had a splendid time on it, and also on the limes, which yielded well. The latter were over before the end of July, which is unusual here. At this time I take the honey—getting it done before robbing commences. The honey was beautiful, as it has been for several seasons, notwithstanding that great dust-cloud which overhangs this city. The bees have not touched honey dew for years. Since I took the honey the bees have worked splendidly. Never before have I seen them working so energetically throughout August and September. They seemed to turn their swords into pruning hooks, for there has not been the usual warfare. Never before do I remember a summer in which there were so many working days for the bees. Day after day I said, "Well, I think this is the very best day we have had yet," and still the next day was as good, or better. Yet it did not become monotonous—for a continuity of blue skies are to me as unbearable as the bitter grey days we get in March. Some days the sky was overcast as though we might expect rain. At other times nature spread a thin veil of vapour

over the whole dome, which tempered the heat to the blue harebells, the wild candy-tuft, horse-shoe vetch, and sun-rose, of the high hills. When I lay down in the cool shadow of a high beech and saw the thin carpet of flowers growing out of the solid chalk, two inches of soil at the most, I thought "unless we have rain soon these things will certainly perish." There was the above-mentioned flowers together with a profusion of eye-bright so thick indeed as in places to whiten the breast of the hill. There was the clustered bell-flower with one, or rarely two, flowers and scarce an inch high, field gentians and stemless thistles, thymes and salad-burnet, spotted orchids and handsome bugloss, all so dense and diminutive that the great curving line of the hill against the sky appeared unbroken save for the small bushes of juniper which clung to the ground like a mountain saxifrage. The heat, however, which prostrated me seemed to invest the lesser life of the earth with renewed energy. Dingy-hive bees, or hybrids with one amber band; humble bees, or their more expressive name "bumble" bees, together with their relatives, the Apathus, Osmia, and Megachile bees; flies of a thousand kinds, and butterflies; tiny blues and nut-brown skippers, small heaths and speckled woods; all revelled in the well-prepared feast, in the flood of sunbeams, in the fulness and immensity of a splendid summer's day.

I think the flowers of these arid chalk hills of Oxford are kept alive in such seasons more by the heavy dews which nightly fall than by the rain, which came once in about four or five weeks, and if so, how absurd it seems to spend so much time daily watering our lowland gardens. It is this that tends to keep such an abundance of slugs in suburban gardens, and which makes the soil so hard and so dirt-like compared to the sweet earth of the meadow or the wood. In my own garden the whole family of snails have been burnt out utterly, and the change in the character of the years has filled me with delight, for the whole of the things which I had mourned as lost have returned to me. Well on into teens of hives have gathered the old golden honey. Orange-tipped butterflies, which, if you remember, once over-laid their eggs on the dame's-violet, have laid them there again, whilst the flowers have been crowded with tortoise-shells, with peacocks and resplendent red-admirals. Beech and birch leaves have been again as they ought to be, not torn and battered before their appointed time. This is the appointed hour, now, when the gale tosses them against these hazel stools athwart the flowerless ride, while overhead the angry clouds rush on, throwing down tons, ah! lakes of rain. But prunella leaves, still green, under these bruised leaves formed catkins in alder and hazel; white rootlets bursting from buried bluebell bulbs — all prophesy of a returning summer and a dear, delightful spring!—LORDSWOOD.

THE BEE'S STING.

The infinite superiority of Nature's handiwork over the finest work of man is clearly illustrated in the relative fineness of the point of a bee's sting and that of a delicate cambric needle. Under a powerful microscope the former is hardly discernible, while the latter appears to be about an inch in diameter, and very coarse and rough in finish.

Notices to Correspondents and Inquirers.

All queries forwarded will be attended to, and those only of personal interest will be answered in this column.

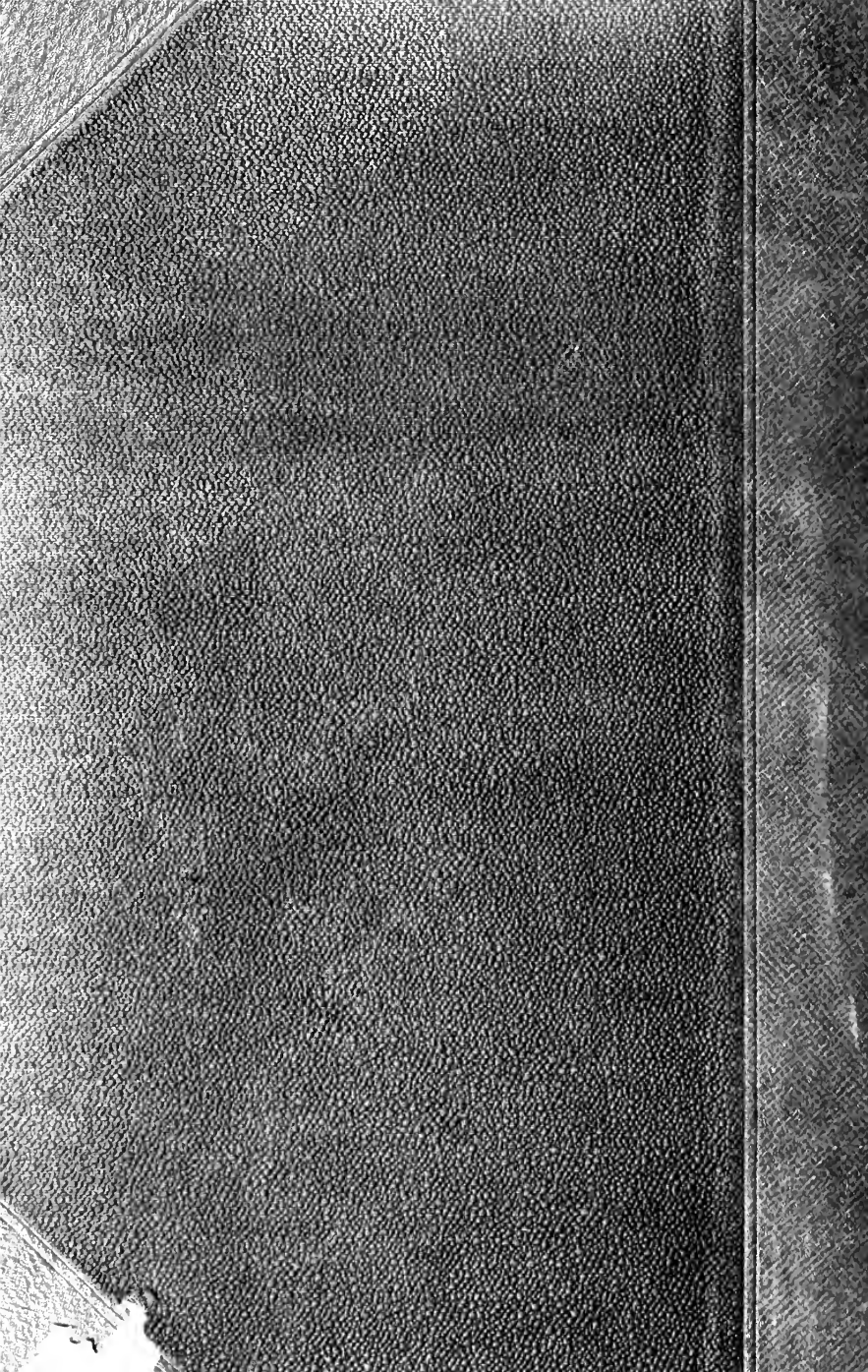
Letters or queries asking for addresses of manufacturers or correspondents, or where appliances can be purchased, or replies giving such information, can only be inserted as advertisements. The space devoted to letters, queries, and replies is meant for the general good of bee-keepers, and not for advertisements. We wish our Correspondents to bear in mind that, as it is necessary for us to go to press in advance of the date of issue, queries cannot always be replied to in the issue immediately following the receipt of their communications.

ERRATA.—Owing to a printer's error the weight of honey—as stated in table (on page 516) appears as 85 lb., whereas the correct weight is 685 lb.

A WORKING MAN (Kidderminster).—*Disinfecting Hives.*—Boil, if possible, or scald the hives with boiling water, and paint over with a strong solution soluble phenyle, 3 table-spoonfuls to one quart of water. The frames (if not destroyed) should be boiled for half an hour before using again.

M. H. (Tunbridge Wells).—*Width of Entrances in Winter.*—In very cold weather, or during the prevalence of cutting winds, it is best to reduce entrances to about one inch in width.

TINTO (Biggar).—*Unsealed Honey in Sections.*—1. The honey, if thin and unripe, will probably ferment and be unfit for giving back to the bees. 2. If it granulates, the bees will rather carry out the granules than fill up the cells with new honey. 3. Unsealed honey extracted from sections is generally inferior in quality because of its unripeness. 4. See reply to No. 1.

WM. CAMPION (Burton-on-Trent).—*Cleaning Wax.*—The sample of wax sent is a good one, though not so bright in colour as it might be. If a half teaspoonful of sulphuric acid is added to each quart of water used in boiling the wax it will much improve the colour. The information in our monthly *Record* for December will be very helpful in the matter of wax rendering.

The space taken up by the Index in this number compels us to hold over till next week several articles already in type.